U.S. CLIMATE CHANGE POLICY AND ITS ROLE IN COPENHAGEN (2009) AND PARIS (2015) CLIMATE CHANGE CONFERENCES

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DECLARATION

I declare that the dissertation entitled **"U.S. Climate Change Policy and its Role in Copenhagen (2009) and Paris (2015) Climate Change Conferences"** submitted by me for the award of the degree of **Master of Philosophy** of Jawaharlal Nehru University is my own work. The dissertation has not been submitted for any other degree of this University or any other University.

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CERTIFICATE

We recommend that this dissertation be placed before the examiners for evaluation.

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CONTENTS

CHAPTER 1

INTRODUCTION

1.1 *A BACKGROUND*:

The United States of America is one of the most important players in the pursuance of global climate policy and process. As a country with massive economic strength and political might, it has been acting as a major driving force in climate change and global warming issues and negotiations. History of environmentalism tells us that the United States of America has played a major role in the spread of environmentalism and environmental activism. The programs undertaken by the US domestically have been instrumental in modeling the environmental programs of other industrialized western countries. The world faces countless environmental predicaments today. These problems vary from environmental degradation, to ozone layer thinning, droughts, floods and natural resource depletion. The science behind climate change keeps growing and every now and then, bring to light various newer challenges to the Earth's environment, which has helped the world community to gather support and build institutions on issues as a whole (climate change) to as individual problems (ozone layer depletion).

Even though the world acknowledges the presence of a greater threat, the international community has been often slow to respond to the challenges thrown by the changing environment. The world has time and again shown lack of coordination, lack of will, meager amounts of funding, questioning of the science on climate change and in a few cases lack of clear mandates. It is not that environmentalism was unheard of in US before the onset of the twenty first century, Marshe's, 'Man and Nature', Thoreau's 'Walden' were written in nineteenth and the twentieth century's, but it was not until the famous work of Rachel Carlson, 'The Silent Spring' that environmentalism gained ground in the

US. Carlson pointed out that the chemicals which we release into the atmosphere were proving hazardous for the songbirds (Carlson: 1962).

The environment was ripe for the growth of environmental movements and groups in the 1960s. The world witnessed manifold increase in the concern regarding the environment. The whole scene was full of new environmental groups sprouting and their memberships saw a rise in numbers. Inside US there were many such groups coming up, like 'Friends of the Earth' and 'Earth First' and with the passage of time there came up other groups like 'Green Peace', 'world Watch Institute' and 'Earth Watch' on the US environmental scene.

The period of 1960s and 1970s saw heightened environmental concern and action. The concepts like conservation were wedded to the ideas of sustainable development. The centerpiece of the environmental awareness, preservation and conservation was the simple principle of regard for admiration of nature. This was the simple driving principle. This was the very period that saw the emergence of burning issues like civil rights, liberation movements and counter-culture. Intellectuals and students were at the helm of the environmental movement. The situation was perfect to capture the concerns on the changing climate. The Biosphere Intergovernmental Conference for the Rational Use and Conservation of Biosphere was held in the year 1968. The very first 'Earth day' was observed in the year 1970.

The political institutions, the policymakers and the lawmakers were aware of the prevailing climate of activism on environment, but took a lot of time to synchronize their efforts towards the same. The policymakers were faced with trouble over such growing range of complex environmental issues. Lyndon Caldwell writes "In the evolution of the American political institutions so far there appears to be no clear doctrine for the human environment as such" (Caldwell 1995: 30). The environmental movement, when it first emerged, was looked upon as being elitist in nature. Things changed over time. The time changed for better for the environmentalism in the US Congress too. The year 1969 saw the coming to life of one of the most important laws in the history of the United States, the National Environmental Policy Act (NEPA). The NEPA established Environmental Assessments and Environmental Impacts Statements for federal agencies. The act called

for the various federal level agencies to evaluate their major policy programs and their effects on the environment. This was in a sense, truly trendsetting law.

1.2 THE FIRST STEPS:

The Stockholm Conference on Human Environment (1972) was the first major step taken by the world community to acknowledge the threat to the environment. This conference, where representative of around 114 countries came together, brought the environmental agenda in the mainstream. It was a major turning point in the history of environmental negotiations and conferences. Kiss and Shelton point out that "the watershed event in international environmental law was the Stockholm Conference on the Human Environment in 1972 which summed up the awkward conscience and marked the beginning of a truly ecological era" (Kiss and Shelton: 1993:11).

It was the first time that any conference tried to establish the link between development and environment. It was argued in the conference that it was necessary to protect the environment for economic and social development of the world. The conference produced the Stockholm Declaration, conception of domestic ministries for environment and the United Nations Environment Program (UNEP). The developed industrialized countries were well aware of the fact and even agreed to it in the conference that the effects of a deteriorating environment would be most apparent on the people's health and their well being. There was somewhere also this thing in their minds that the more concealed and prevalent harmful effects of environment damage would lead eventually to modified environment over the years and would be detrimental to the whole civilization. "They looked upon the rapidly swelling population of the developing countries as an important driver of the coming environmental crisis" (Soron 1999:32).

The condition of most of the developing countries was full of poverty and hunger. The developing nations' energy and resource use was still quite less and the problem of pollution was concentrated in some specific areas. The developing countries blamed the developed industrialized nations for the problems of environment, citing the historic role of the developed world in degrading the environment and their rapid industrialization as

the reason behind such environmental catastrophes. These countries called for equitable distribution. The Stockholm Declaration's principle 21 mentions that, "countries have the sovereign right to exploit their own resources as they choose, but they have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other countries."

The Stockholm Conference on Human Environment gave a sophisticated action plan. On 15 December 1972, the United Nations General Assembly brought to life through a resolution the required financial and institutional procedures to put into practice the recommendations of the Stockholm Conference for United Nations Environment Program UNEP). A Governing Council, voluntary Environmental Fund, Environmental Secretariat and Environmental Coordination Board were all established. McCormick notes that "the most tangible outcome of Stockholm was the creation of the United Nations Environment Program. It had limitations and deficiencies, but it was probably the best form of institution possible under the circumstances, and it became the focus of a new interest in global responses to global problems" (McCormick 1995: 129). This was the same time that the 'Limits to Growth' report was brought out by the 'Club of Rome'. The report held importance as it pointed out that if growth was not tamed, it would have calamitous outcomes. The developing South was critical of the report as it talked about slowing development and the North was furious because the report did not touch upon the technological solutions.

During all this time it was coming to light that the Chlorofluorocarbons (CFCs) play a big part in environmental degradation and these CFCs were quite common as they were widely used in refrigerators and aerosol sprays. In the year 1974, to research and review the ever evolving issues regarding CFCs, an ad hoc panel was set up the US National Academy of Sciences. The same year saw the Natural Resources Defense Council formally request the Consumer Products Safety Commission to put a ban on CFC aerosol sprays. 1974 was also the year when the Congress started hearing on the matter and it was later then that the US consumer shunned aerosol products.

The 1970s have been given the title of the 'Environmental Decade'. The country witnessed numerous diverse ranges of environmental laws and legislations being passed

by the Congress. Among the many issues that were covered under these legislations, there was land degradation, energy use, toxic chemicals, water pollution, endangered species, ocean pollution, pesticides and air pollution. The Congress passed multiple laws like- The Toxic Substances Control Act (TSCA, 1976); the Endangered Species Act (1973); the Clean Air Act (1970); The Occupational Safety and Health Act (1970); The Resource Conservation and Recovery Act (RCRA,1976); The Comprehensive Environmental Response, Compensation and liability Act (CERCLA,1980); Emergency Planning and Right to Know Act (1986); Superfund Amendments and Reauthorization Act (1986); The Pollution Prevention Act (1990); The Federal Insecticide, Fungicide and Rodenticide Act (1972); The Safe Drinking Water Act (1974) and The Toxic Substances Control Act (1976) (Kraft: 2000). Rosenbaum talks about the environmental decade by noting that:

….created the legal, political and institutional foundations of the nation's environmental policies. It promoted an enduring public consciousness of environmental degradation and fashioned a broad public agreement on the need for governmental restoration and protection of environmental quality that has become part of the American public policy consensus. It mobilized, organized, and educated a generation of environmental activists (1998:11-12).

The decade of 1980s was a period which witnessed new terms and trends as regard environmentalism in the United States. The environmental movement was becoming more connected with the people; it was seen as moving away from elitism to involving the common masses. Environmentalism as a concept enjoyed more fan fare than the regular traditional issues. People were becoming much more aware of the dangers posed by the altering climate. The Vienna Conference of 1985 was an event where the international community met to discuss the evolving nature of environmental threats and to chalk out a plan for collective action on the question. The Vienna Convention was signed in 1985 and came into effect September 22, 1988. The conference came up at a point in time when the scientific community working on the science behind

environmental degradation was still undecided over how these chemicals were proving injurious to the ozone layer and were still finding out ways to best protect the ozone layer from damage. There was some sense of urgency inherent in the convention, a fear that the world community could not just sit idle while the environmental problems escalate. The primary purpose of the Vienna Convention was "to protect human health and environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer" (Bergesen and Pernon: 1997). The convention however, does not put any specific measures for the protection of the Ozone layer.

The work that was started by the Vienna Convention in 1985 was taken forward by the much talked about Montreal Protocol (1987). The Montreal Protocol converted the Vienna Convention of 1985 into a protocol. The protocol was signed in the year 1987 and served as a key step forward towards the fulfillment of the promise to protect the ozone layer. The protocol was the outcome of various sequences of negotiations. The participant nations worked out their differences and agreed to commit to eliminate ozone diminishing chemicals like the chlorofluorocarbons (CFCs). The protocol provided a list of ozone depleting chemicals to be phased out over time; these were mainly three halons and five CFCs. Another requirement of the protocol was for the countries to restrict their consumption to the 1986 levels. The protocol persuaded the developed countries to reach out to the developing nations with help financially, on substitute substances and on technology related to environment.

The report of the 1993 Technology and Economic Assessment panel reads, "Most developed nation parties to the protocol are well below the amounts authorized under the phase-out schedule. Governments and firms are able to move faster towards the phase out of the ozone-depletion substances because of the development of substitute substances and processes" (Barima: 1994). The protocol is graded highly when we look at its effectiveness. Around 160 countries of the world have signed this remarkable treaty.

The UN Conference on Environment and Development (1992), popularly known as the 'earth Summit' or the 'Rio Summit' was an astonishing event that saw participation in huge numbers, the participation was high in the summit that it was regarded as the largest

ensemble of world leaders during those years. “The Earth Summit held in Rio de Janeiro in June 1992 marked an important milestone in awakening the world to the need for a development process that does not jeopardize future generations” (Ghali: 1992). Issues like ozone layer thinning, biodiversity protection and the threat posed by global warming were debated upon in the summit. Rio embodied 27 principles which charted out a list of roles and responsibilities of the multiple governmental, non-governmental organizations, and the participating states to align their efforts towards the common goal of sustainable development and a global partnership towards the same.

The Rio Declaration took note of the adverse conditions prevailing in the least developed and developing countries and the declaration pursues the equity principle. Betsill writes that the Rio 1992 Summit saw the focal point change from climate crisis to economic outline (Betsill2000:213). The countries soon turned their attention from addressing the climate issue to discussing how to counter this threat without hurting their economic growth. The industrialized nations were seen worrying about the mitigation costs of taking action on climate change, whereas, the developing countries were concerned about technology transfers and financial help from the developed countries to take action on climate change. The Head of US delegation to the summit, Robert Reinstein commented, “The issues are at the heart of the economy-they are extremely complicated. The price if you guess wrong could be very damaging” (Bureau of National Affairs, 1991). The developed countries were more focused on the economics of the action taken to combat climate change rather than the environmental aspect and the consequences of climate change.

Article 3 of the Rio Declaration talks about the right to development: “The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations” (Rio Declaration: 1992). Agenda 21 is probably the most important outcome of the summit. Agenda 21 doles out a plan regarding environmental management and the progress towards reaching sustainable development in the world. Agenda 21 is not a legally binding document, which makes it not compulsory for the countries to adopt and follow.

The next eminent feat in the long history of climate change negotiations and institutions was the United Nations Framework Convention on Climate Change (UNFCCC). It was during the Rio Summit that the world realized that the unnatural changes in climate were an imminent threat to the civilization and agreed upon the formation of the United Nations Framework Convention on Climate Change. The UNFCCC entered into force in the year 1994. Countries that are party to the UNFCCC and have ratified it hold annual meetings and these meetings hold the title of 'Conference of Parties' (COP). Till date 21 COP have materialized, the first COP was held at Berlin in 1995 and the latest being COP 21 held at Paris in 2015.

The UNFCC works on the principle of 'Common but Differentiated Responsibility' (CBDR) and it is based on this principle that the measures and policy on climate change happen. UNFCCC meeting agreed that, "changes in the Earth's climate and its adverse effects are a common concern of humankind and that the global nature of climate change calls for the widest possible cooperation by all countries in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions" (Principle 7). The CBDR principle holds that the developed industrialized nations are much more responsible for the current increased greenhouse gas emissions (GHGs). Conference of Parties (COP) have been at the forefront to check the commitments made by the parties to UNFCCC and also review the policies adopted by these nations. The COP looks at these commitments and then produces regular reports on the implementation of the convention.

1.3 THE CRITICAL ISSUES (GLOBAL):

The issues that have been of major concern to the international community regarding environment since the period starting from the 1960s have been concerns over the CFCs and the greenhouse gases (GHGs), the depleting ozone layer or the thinning ozone layer and climate change.

The Ozone Layer protects the Earth from the harmful ultraviolet rays (UV) emanating from the sun. The deterioration in the ozone layer means that these harmful UV rays can

penetrate into the surface of the earth much easily which would bear drastic consequences for the people of our planet. The 1970s were the first time that the scientists noticed that concentration of ozone molecules in the protective shield above the earth may be falling at a rate that is much lower than what would have happened under normal natural circumstances. The natural processes are such that these molecules do lower in the normal cycle but the evidence suggested that the protective ozone layer was showing signs of thinning. This was the key discovery that led the world towards the path of environmentalism.

It was realized subsequently that the thinning may be human-induced. The culprit was the chlorofluorocarbons (CFCs), which are widely used in refrigeration and aerosol spray cans. These CFCs are made up of the components of chlorine and 'halons', which contain bromine. Later on, it was discovered that was no identified course of their break down in the natural environment, which meant that once they released into the atmosphere of the earth, they happen to survive in the atmosphere from somewhere around 65 to 110 years. Sherwood Rowland and Mario Molina found out in their paper that the CFCs were indeed reducing the ozone concentrations in the stratosphere (Molina and Rowland: 1974). The situation was still not perceived as a major cause for concern since the scientific community had not fully established the reductions in ozone shield fully.

The world needed to take immediate action on the ozone layer depletion issue because it is our fault that we have brought such trouble to the flora and fauna of the earth. Ozone layer is essential for the human kind as it protects not only humans but even animals and the plant life from the harmful effects of the UV rays and disease. The thinner the ozone layer gets, the more are the chances of skin cancer among humans. It is a commendable job that the international community did when as soon as they realized that the damage has been caused, they united in their efforts to combat this threat to civilization and agreed upon the common goals to achieve the aim.

It was only in the middle of the 1970s that the ozone layer depletion was fully researched and it was found that the question of ozone layer depletion was a reality and wanted immediate attention and action from the world. In 1985, the 'ozone hole' was first reported. The discovery was appalling in the sense that there was intense springtime

ozone thin out over Antarctica near the South Pole. In the US, the 1970s saw the increased awareness among the people mainly due to the media reports and non-governmental organizations' (NGOs) actions, there was widespread publicity of the issue. While the world was rallying support for the cause, the Reagan administration in the US, was sharply opposed to the idea of environmental protection or conservation, as it would have meant for the economy to slow down and would have proved to be a major hindrance towards the ideals of free market.

The blooming hustle-bustle of the environmental decade (the 1970s) was followed by sharp decline in interest towards environment as soon as Reagan stepped into the Whitehouse. Reagan's anti-environmental ideas made him appoint controversial figures as in charge to important environmental offices, which were known for their dismissive views on environment. Under the leadership of Reagan, the country backed out from the efforts aimed towards the reduction of CFCs. In the year 1982, procedures to regulate several non-aerosol use of CFCs was terminated by the Environmental Protection Agency (EPA). The administration has been known to have tried to reduce the budgetary funding of EPA. Reagan's views on the environment could be guessed from the statement he made, "Trees cause more pollution than automobiles do," and "if you've seen one tree, you've seen them all" (Kirshon 2012: 479)

Regan saw the rising environmentalism detrimental and at odds with economic growth of the giant nation. The Reagan administration was well-known for its unfavorable attitude towards environment. Industries like timber, oil and automobiles which had earlier faced environmental restrictions were left unchecked and environmental restrictions were ignored to a large extent. This was in part under the manipulation from big right wing business groups as they tried to dispense huge sums of money in lawsuits, books, articles and campaigns to further their self-interest and held responsible the environmentalists for all troubles being faced by the nation (mostly energy crisis and restrictions on industries). Though his actions and policy choices were clearly not favorable as regards environment, it unknowingly brought excitement and more membership in environmental groups and clubs. Reagan adopted the 'Guardianship Presidency' style, to put shortly; it means that

since he had control over the American bureaucracy he could alter the contents of the legislations as per his wishes.

Measuring implements and recording balloons were set up in the year 1986, to study the Antarctic stratosphere. The result of the study (1987) was an eye-opener because it confirmed that bromine and chlorine were interfering negatively in the Antarctic stratosphere and that the hole in the ozone layer was certainly the result of human activities. It was time for the world to take responsibility for its notorious actions and take concrete steps to reduce the damage that had already been done. The Reagan administration was made to forsake its anti-environment ideology and its opposition to environmental regulation in response to domestic pressure (Harris: 2000).

Climate change and global warming have caused immense damage to the earth's environment. The continued change in climate has revealed itself and the world now recognizes that climate change is real and happening even as we continue with our domestic chores. In the 21st century, with increased knowledge about the causes and effects of climate change, the technological advancements made in the field, it is much easier to stand against the threat.Global warming means that the mean temperature of the earth soars to those levels where they impact the human life negatively. The earth has seen ups and downs in temperatures over time, the climate of our planet changes over time. The planet has seen many ice-ages and the intermediate periods of warm weather. The changes that occur in the earth's temperature due to natural causes are the way our planet works. Greenhouse effect too is a natural process. The greenhouse gas effect occurs due to the heat which is soaked up by some particular gases in the atmosphere and some of the heat generated is emitted back to the earth. It has been given this name as these specific greenhouse gases entrap heat in the lower atmosphere.

The process appears naturally in the environment as a way of our planet to keep the temperatures stable over long duration of time. It saves us from excessive, extreme cold temperatures. The question that comes to the mind after knowing about the greenhouse effect is that if it helps to keep the temperatures stable then why there is so much brouhaha over it in the climate community? The concern regarding greenhouse gases and the greenhouse effect is about to what extent is this human-induced. Of the most

problematic greenhouse gases is the increased presence of carbon-dioxide (CO2) in the atmosphere. The high levels of carbon dioxide have led to rising global temperatures.

The rising mean temperatures of the earth have started showing their adverse effects on the various life-forms existing on the earth. The effects can be seen in the form of frequent floods, more areas are now affected by severe droughts, thinning of arctic ice sheet, glaciers are fast melting, and the rise of sea levels due to melting glaciers would in the near future submerge a large portion of coastal areas. Climate change would mean earlier appearance of migratory birds, some animal species would become extinct and the growing season for crops would be longer than usual, with some crops benefitting (wheat) and others at danger due to the soaring heat. Scientists across the world argue that if the temperatures keep getting higher at this rate, then the sea level increase could be around 2-4 cm per decade. Countries which did not earlier see heat waves are witnessing them now. Countries would have to adapt to extreme weather conditions.

The US has seen an increase in the number of floods, tornadoes and hurricanes. Hurricanes like Katrina and Sandy were the evidence of what would occur more frequently if humankind does not respond effectively to climate change. The wind patterns would change and are even changing in the present, which would lessen the amount of rainfall received. The US would be at a major loss because of climate change, as extreme heat is causing rapid wildfires in many regions of the country. Though the country is trying to work towards changing its image in the international negotiations, there have been quite many roadblocks in the way, the Republicans have always seen environmentalism with suspicion, with some going to the extent of even questioning the very science behind climate change and many arguing that the rise in temperatures is just normal and denying the role of human activities in climate change. It is not as if all Republicans are against environmental legislations and laws, there are many among them that rally for the cause of the ailing earth, while many democrats who have prominent coal or manufacturing industries in their states have been found wary of environmentalism.

From time to time, US has played indirect negative role in the climate change and environmental negotiations. The US started as a facilitator in the negotiations and then

went its own way on environmental issues, as could be seen in the many climate change negotiations. The Rio Summit was all about making the world aware of the climate related issues like global warming, thinning of the ozone layer, marine and freshwater resource management, desertification and heightened loss of biodiversity. It was this summit that put 'sustainable development' on the agenda of the political community of the world. It gave the world guidelines for cooperation over development and environment. The summit was a benchmark summit as it talked about developing sustainable economy and ways to take care of our beloved planet. The US had been at the forefront for championing the cause of environment; it was much less active and sportive of the Rio Summit in 1992. Though Bush senior had promised to defend the environmental legislations, be the 'Environmental President', but in essence he turned out to follow the track of Reagan and was vehemently opposed to regulations. The Summit saw the US committing only when the framework of the convention was rather inadequate and was comprised of voluntary commitments from the participating countries.

Well, when we talk about international negotiations on climate change and the US role and policy regarding the same, the Kyoto Protocol must be named as the most important in the history of climate change negotiations that was jeopardized by the US. The Kyoto Protocol was a major defining moment in the climate change negotiations and conferences. The Kyoto Protocol was a beautifully crafted protocol, which would have set up binding emission reductions on all major industrialized nations, had it come into force on time. The Protocol called for the parties to reduce their greenhouse gas emissions based on the findings that global warming is real and happening. It also shed light on the fact that it is the human activities that have, to a large extent, resulted in increased greenhouse gas emissions.

Though the Clinton administration played an active role in the drafting of the protocol and the series of negotiations preceding the birth of the actual protocol, due to immense domestic pressure the administration could never submit it for Senate ratification. All this happened in the light of the Byrd-Hagel Resolution (July 25, 1997), which states that US should not sign any agreement on climate change that exempts key developing countries

from reducing the emissions and which would seriously harm the economy of United States. The final blow to the Kyoto Protocol was dealt by the presidency of George W. Bush (Bush Jr.).

Bush announced that US would not ratify the protocol and it was essentially dead. The reasons cited by Bush Jr. were domestic too, like the protocol would have proved to be ominous for the US economic growth, US industries would have incurred huge losses and the jobs may have been outsourced to developing countries. The major reason espoused by Bush was that the major developing nations like India and China were put under the ambit of binding emission reductions target and any treaty that does not bring these countries under binding reductions, would not mean anything. The gradual withdrawal from the Kyoto Protocol was clearly rooted on the apprehension over whether its involvement in a legally binding agreement may result in US losing out to the fast developing countries like China and India, which may emasculate its economic dominance in the international community. Critics of the US policy on climate change often state the fact that the US inaction on climate change has been largely due to its fear that a legally binding agreement may hamper US dealings in the international arena and weaken its sovereignty and its stand as a superpower.

1.4 ENVIRONMENTAL ISSUES IN US (1960-LATE 1990s):

The question of natural resource depletion has been one of the most important issues concerning the environmentalists and the scientists in the US. The country faces huge losses of wetlands due to the development requirements. Most of the loss of wetlands was to due their conversion to croplands. The Florida Everglades wetlands are very often cited as the best example of what mindless development could do to harm the environment. These Florida wetlands were bled dry for settling human populations and for agricultural purposes. All of these activities led to reduced capacity of the ecosystem to store water and the salinity levels were drastically affected. The country witnessed the loss of wetlands at an unprecedented rate and by 1980s it was 105 acres, which when

compared to the 225 acres from the 1780s is a huge damage to the environment (CEQ 1990: 462-463).

The country has lost many wildlife and aquatic animal species since the advent of America in its truest form. The Wolves were lost in the east by 1800s and by 1900s the west saw their extinction. The 1750s saw the fading away of the Atlantic Gray Whale (Jost 1996: 346-348). Hunting practices, near the end of the nineteenth century, saw rapid decline herds of bison largely around the area of the Great Plains. The year 1925 saw the disappearance of the California grizzly bears. Among the wildlife lost it can be noted that the Gulf Island Vole disappeared in 1898; sea mink in 1903 and Eastern elk was lost in 1880. Around twenty four types of moths vanished and so did eighteen species of bees (Ibid. 349). The degradation of natural habitats and their destruction to cater to human needs, has been one the main reasons for the declining numbers of wildlife species in the US. This accounts for approximately eighty-eight percent of the damage caused to the rare endangered species in the US (Beissinger and Perrine 2001: 59).

Deforestation, urbanization, overgrazing, rapid industrialization and agricultural activities are the major reasons why the country faces the disastrous effects of land degradation. From 1890s to 1920s, excessive cultivation, decreased precipitation and high winds in the land of the Great Plains saw the soil of the land dry up (Klein 1997: 42). Overgrazing and mining activities have been detrimental for public lands in the US. Salinity of soil, soil erosion, biocides leading to severe pollution of the soil, all resulted in decreased cropland quality (Scheffer 1991:35). One of the main factors associated with decreased cropland quality has been soil erosion, which in turn is caused by erroneous farming practices.

Rosenbaum argues that as the industrial prowess of the country gained momentum, there was huge demand for timber from the forest areas, which did not prove to be a good sign for the nation's forests. The US, by the end of the 1980s, was left with only five percent of what used to be its forest cover (Rosenbaum 1995: 74). These activities had a negative effect on the health of forests. The period after the end of the Second World War witnessed massive rise in the nation's appetite for timber, so to meet this rising demand, the timber factories set sight on the country's forests. This led to immense cutting of the forests for timber. Forest Services stated that to cater to this huge demand, to fulfill it,

they would have to look towards the Pacific North West old-timber growth. This irked the environmental conservationists. They argued that commercial logging and severe logging would interfere with the natural working of the forest ecosystem because it would be brutal to the ability of the forests to store up water and would result in the loss of habitat for various wildlife species in these forests.

The risks posed by land pollution are very serious. The lands in the US are getting polluted by disposal of hazardous, toxic wastes and chemical products. Wastes from nuclear plants, chemical plants, and commercial chemicals have been suffocating the lands of the country. The Love Canal incident brought to light the reality of what chemicals can do to human lives. The Hooker Chemicals and Plastics Corporation used this canal in New York to dump chemical wastes. The site was filled-in and covered and a school was set up around the area by the Niagara Falls Board of Education. Soon, families started residing in the area and its neighborhood. The area reported liver ailments, higher than usual birth defects and miscarriages among the women. This led the New York health Department in August of 1978, to announce that the area was unsafe for the people living there. When President Carter heard of the issue of such grave concern, he announced a national emergency. The chemicals wastes that were disposed in the canal percolated in the houses of the residents (Petulla 1987:57).

Scheffer writes that the period from 1950-1980s encountered about six billion tons of hazardous waste being disposed at nearly 2500 plus sites and the cleansing and cleaning of these sites might take over fifty years, which would amount to billions of dollars (Scheffer 1991:87). The Conservation Foundation ascertained that nearly twenty-three percent hazardous wastes are disposed of in landfills and around twenty-five percent is put by deep-well injections (Rosenbaum 1995:238). The decade of 1990s saw increase in chemical dumping grounds and the nation spent billions of dollars on a per year basis to regulate chemicals, waste dumping and regulation. In 1993, five states contributed the most to the toxic and hazardous wastes. It was outlined by the Environmental protection Agency, that these states were New Jersey, Tennessee, Louisiana, Michigan and Texas (Switzer and Bryner 1998:90). Switzer and Bryner mention that the pollution the lad faced was due the activities and the wastes produced by the local bodies like military,

municipalities, agricultural wastes, industrial and nuclear wastes (Switzer and Bryner 1998:90).

The question of hazardous toxic wastes started with the end of the Second World War industrial enlargement. The wastes generated from industries caused more pollution to the land than other sources of land pollution. During these years, dangerous wastes from industrial units accounted for almost five percent of the nation's total waste output (Switzer and Bryner 1998:90). The wastes that come out the industries are both non-hazardous and hazardous. The category of hazardous (solid) wastes if is not handled adequately becomes a serious cause of concern for the lives of the people and in many cases may even lead to deaths. According to the Environmental Protection Agency's (EPA) Toxics Release Inventory, the releases from industries accounted for 3.4 billion pounds in the year 1991, out of which nearly 421 billion pounds were poured on land (EPA 1993:4).

After the establishment of the first nuclear plant in 1958 at Shippingport, the nuclear industry saw an increase in size over the years starting from the 1970s onwards. Presently, the country has approximately ninety-nine nuclear reactors which are functional. The pernicious nature of these reactors came to the knowledge of the common people when mismanagement on account of human unsuccessfulness caused accidents. There were accidents like one Three Mile Island Plant in Pennsylvania in 1979, which were evidence to the fact that such disasters requires huge after-efforts for clean ups requiring huge swathes of money and efforts. The rising numbers of nuclear plants and reactors in the country have mobilized the people to stand in unity against the accidents caused which only harm the human live, but the government has continued the practice of building nuclear reactors over the years.

When talking about pollution, we cannot not discuss about water and air pollution. These have been the major sources of distress for the people in the US. The water bodies in the country have been polluted due to the increased presence of unsafe harmful chemical and industrial wastes released in the rivers and lakes of the nation. Groundwater has been adversely affected because of the presence of such risky chemicals in the land and in the water. Untended, untreated municipal sewage and industrial wastes have been the most

potent sources of water pollution in the country. The most vivid picture which is etched in the memories of the people in the US is one of the Cuyahoga River (1959), which was so heavily polluted by the presence of chemical and domestic wastes that it was in flames for whole eight days. The river was again up in flames in the year 1969, which generated awareness among the people and the environmentalists on the subject of unrestricted waste disposal (Scheffer 1991:51).

During the 1980s the problem of water pollution resulting from agricultural activities, largely owing to the existence of pesticides and insecticides in the water bodies was a major cause for concern. The country witnessed cases to where water was found to be unfit for consumption because of increased incidences of chemicals present in the water. A 1996 EPA report brought to light that 38 percent of the country's estuaries did not meet the standards set for water quality. Rivers and streams (36 %) of the country did not pass the test of national minimum drinking water quality norm for "designated beneficial uses" (Vig and Kraft 2000:21). The oil spills have caused havoc for the coasts and the coastline areas of the US. Oil-spills cause damage not only to the human lives but they are much more injurious for the marine life.

The Argo Merchant spill case from the year 1976 caused severe harm to the coastline. The Argo Merchant, a tanker, spilled around seven million gallons of crude oil in close to the Nantucket islands in Massachusetts (Scheffer 1991:48). The Exxon Valdez oil tanker caused oil spill on the coast of Alaska's Prince William Sound of approximately eleven million gallons of crude oil, in March 1989. The damage caused was such that it polluted the water to a great degree but proved disastrous for the aquatic life. Huge scores of shore birds and sea otters were found dead in the wake of the oil-spill (Kline 1997: 109). According to the US Census Bureau 9672 incidents of oil spill incidents and the subsequent pollution were documented in the year 1993 itself (US Census Bureau 195:232). Events like these and coastal littering since the 1960s have formed the major setback for the coastal marine and wildlife.

It is now a fact of general knowledge that the rapid industrialization created a nuisance for the county's air. The rising smokes from the chimneys and coal-burning steam engines, trains, ships all contributed to air pollution over time. In 1981, more than 30

million tons of nitrogen oxide and sulphur dioxide were released in the atmosphere of Eastern North America. As the number of mechanized vehicles saw an increase, so did the amount of air pollution in the atmosphere of the American cities. Kline notes that in 1969, California declared that, "The children of Los Angeles are not allowed to run, jump or skip inside or outside on smog alert days by the order of the Los Angeles Board of Education and the County Medical Association (Kline 1997:82).

In 1992, there were as many as twenty urban areas which the levels of smog were so high that they went past the national standards (CEQ 1993:49).The transport sector has been one of the most observable culprits of air pollution. The country's transport sector amounted to almost five percent of the global carbon dioxide emissions (UNEP 2002:231). The roads of the country have been flooded by mechanized new forms of cars, motorcycles and trucks, which release massive carbon dioxide into the air which the people breathe. Even in 2016, there is an understanding that the transport sector would have to be evolved, revitalized and incorporated in building policy measures which are capable of keeping the pollution levels at bay in the country.

1.5 LITERATURE REVIEW:

Several theorists and experts are prevalent in the field of the study of climate change. They analyze the various issues involved in the study of climate change from the numbers on climate change challenges, to giving a detailed understanding of the climate change negotiations, to the state actions and policies towards climate change, to the regime complex for climate change, to emphasis on climate change science, to trust issues in climate negotiations.

The Politics of Climate Change written by *Anthony Giddens* makes for an informed reading on climate change. In the book, Giddens talks about the importance of global warming and climate change, arguing that if the threat of climate change remains unchanged, the consequences will be such that the existence of humankind will be at risk and yet, people all over the world have failed to respond in a way that is in line with the way that problem of such magnitude must be treated. For Giddens, there is no politics of

climate change; he then sheds light on 'Giddens Paradox', which states that, since the dangers posed by global warming aren't tangible, immediate, or visible in the course of day-to-day life, many will sit on their hands and do nothing of a concrete nature about them. Yet waiting until such dangers become visible and acute- in the shape of catastrophes that are irrefutably the result of climate change-before being stirred to serious action will be too late.[1]Giddens is of the view that the climate change negotiations from Kyoto to Copenhagen have all been more of talking than getting the real work done and there is hardly any consensus between the industrialized and developing countries over emission reductions and who has what responsibilities and to what extent. Although Giddens does acknowledge the fact that it is industrialized countries of the world which have more of the burden to share, as it is a part of their historical responsibility, but this does not add to the existing knowledge among the readers and scholars on climate change. It is an established fact that it was due to the emissions which happened while the developed countries were developing, that the major part of climate change related damage happened and it is very often that countries which have had no or little role to play in global warming and climate change that have been the worst affected.

The book talks more about the consequences, policies and mitigation in most of the industrialized developed countries and sheds lesser light on the situation and policies adopted by the less and least developed countries and neither does it explain what happens in the climate change negotiations and does not give much policy recommendations. The book at times fails to keep intact the reader's attention, as it is filled with more of facts and statistics rather than explaining the theory behind it.

Fools Rule: Inside the Failed Politics of Climate Change, by William Marsden throws light on the politics of climate change and what happens behind the closed curtains of the climate change negotiations. The book is important for an understanding of the climate change negotiations and how these negotiations have been incompetent even as the dangers of climate change become more intense. The author makes the reader aware of the fact that even though such events are highly prioritized by the media, talked over by

[1]Giddens, Anthony (2009),*The Politics of Climate Change*, Cambridge: Polity. Pg.2

all the audiences of the world, they still have not played a path-breaking part in combating climate change. The book is laced nitty-gritty's of the details of the Copenhagen climate conference, what happened inside the meeting rooms, public statements. Marsden talks about the positions of various countries in events like Cancun and Copenhagen. Marsden argues that even though the US has a major role to play in any such climate conferences, the country participates only half-heartedly, bringing up the stance taken up by the developing countries and is dragged down by its domestic politics.

The author explains that there exists a clear gap between what is the nature of climate change and what governments and politicians are doing to combat the mounting effects of climate change. Marsden maintains the equilibrium between the science and the politics of climate change, lining the text wherever necessary with insights like our oceans would continue being poisoned by the human activities, or the melting arctic ice. The important part of the book lies in the understanding that it is the politicians who are at the helm of affairs concerning climate change, whereas, it is seldom that experts on such issues are brought in the frontline to make plans. Marsden, even though has put up all the details of impending doom and the political inaction, ends the book on a hopeful note that the human brain has wondrous capabilities, why not use it, but the fact still remains that a lot of what goes in protecting the environment still needs to be debated by the world leaders.

Climatic Cataclysm, authored by Kurt Campbell is a timely written book, which delves into futuristic scenarios and what could be their effects on security and foreign policies of different nations. The book throws light on possible climate scenarios and then the contributors have dealt with them citing scientific data and statistics. The book analyses the security implications of these scenarios and the variety of consequences they could result in, which may range from large scale migrations, spread of diseases, conflicts in less developed nations to mention a few.

According to Campbell, climate change is not just another problem to worry about: left unchecked, it will come to represent "perhaps the single greatest risk to our national security, even greater than terrorism, rogue states, the rise of China, or the proliferation of weapons of mass destruction." The historian J. R. McNeill offers a fascinating survey of

past centuries of environmental upheaval. In other chapters, experts chart three alternative scenarios based on different projections of climate change and their implications for peace and stability. A cascade of unwelcome effects are identified: large-scale migrations, conflict over scarce resources, and the geopolitical reordering of states as they struggle to cope with coastal flooding, food shortages, and disease. In the most catastrophic scenario, political order in large parts of the developing world will collapse and hundreds of millions of people will perish or emigrate.[2]

Six Degrees: Our Future on a Hotter Planet, by Mark Lynas, is an eye-opener. The book is laced with scientific statistics and shows the reader what a one to six degree rise in temperatures could mean for an already ailing planet. The book is divided into six chapters. The author makes the case that if there is a six degree increase in the temperature of the planet, then most of the flora and fauna would be wiped off the face of the earth and would eradicate to a large extent, even humanity. Providing, a degree by degree explanation, Lynas explains that a one degree rise in the temperature would lead the Australian coral reefs to ruins, would lead to widespread floods, at three degrees, Manhattan would be flooded and many places in the world would be under water. Lynas uses scientific models to make a clear picture of how any temperature rise may lead to extinction of many a species. By breaking up the book into six chapters with graphic explanations vivid use of imagination, Lynas strikes a chord with the reader, which would have otherwise resulted in the loss of readers' attention on an important issue.

1.6 SCOPE OF THE SUBJECT:

The study tries to limit the vast area of study by focusing on Copenhagen (COP15) and Paris (COP21) conferences, that is, from the year 2009 to 2015. Even though there still are a plethora of climate skeptics, the fact remains that climate change is happening at an unprecedented rate and it is in the interest of the US to reclaim its leadership in climate change negotiations and pave way for a safer and cleaner future. Therefore, most of the

[2] Ikenberry, G. John (2009), "Climatic Cataclysm: The Foreign Policy and National Security Implications of Climate Change", *Foreign Affairs*. http://www.foreignaffairs.com/reviews/capsule-review/2009-03-01/climatic-cataclysm-foreign-policy-and-national-security.

discussions revolve around the past, present and what could probably be the US policy towards combating climate change. It would be important to see whether US, by cooperating with the other concerned parties can achieve success at Paris Conference, but most of all, would it be ready to accept the climate change challenges, concede blame and move towards an agreement which may put binding emission reductions on US.

1.7 RESEARCH QUESTIONS:

1. What have been the impacts of the domestic policy and criticisms on a comprehensive US policy towards climate change?

2. Why has the US executive been unable to convince the senate and the public to agree on a legally binding agreement?

3. What have been the international influences which have curtailed the policy making process on climate change in the US?

4. Whether US is ready for an effective agreement now, and if this is the case, then why?

5. Whether US will be able to get around an agreement this time to which the US senate would confirm?

6. What would be the options available to Obama administration, if it cannot find a way to make an agreement that would be agreeable to the senate?

1.8 HYPOTHESIS:

1. US domestic politics determines conclusion of legally binding international agreement on climate change.

2. US-China understanding on emission reductions has impacted on US taking a leading role in Paris climate change conference towards an agreement on measures to combat climate change.

1.9 METHODOLOGY/RESEARCH METHODS:

The proposed study would make use of primary as well as secondary sources of data collection. In this study, the primary sources of data would be archival documents, public statements and government documents, reports of various media and study groups, political remarks and speeches, treaties and agreements, interview reports and organizational policy papers. The secondary sources of data collection would comprise of articles, journals, magazines, periodicals and an extensive use would be made of the Jawaharlal Nehru University and American Centre Libraries, for data collection. To address the phenomenon of multiplicity of actors influences and processes in the politics of climate change, a Levels of Analysis approach, as described by Kenneth Waltz (1959) would be employed to analyze the research problems at three different levels: the international level, the state level and the non-state actor level. All efforts would be made to maintain an element of objectivity, such that the study is free of personal biases and that the study is reliable and replicable.

CHAPTERS:-

1. INTRODUCTION:

   This chapter gives an overview of the background of the UNFCCC processes and lays the foundation for understanding the policy of climate change and climate change negotiations, with keeping in perspective the Copenhagen and Paris climate conferences. The chapter gives a detailed account of the history of climate change awareness among the international community and the salient issues of concerns are highlighted globally and specifically for the US.

2. PRESIDENT, CONGRESS and NGOs:

   The second chapter delves deeper into the roles played by the different parties of policymaking in the US. It provides an understanding of the US Congress' view and role

in the climate change procedures and proceedings. The chapter gives details about the positions of NGOs in climate change policies and negotiations and their lobbying efforts.

3. THE COPENHAGEN CONFERENCE:

   The third chapter of the study focuses on the Copenhagen 2009(COP15) Climate Conference, the aims and aspirations of the US, the role of the US in the conference, the framing of the Copenhagen Accord, and the steps taken keeping in mind the Accord.

4. THE PARIS CONFERENCE:

   The fourth chapter looks at the Paris 2015(COP21) Climate Conference and explains what changed between the 2009Copenhagen Conference (COP15) and the Paris Conference, the US role in the conference, the policy measures with which the US attended the conference, how far the US would be willing to go and the outcome of the conference.

5. CONCLUSION:

   Based on the hypothesis the conclusions have been drawn.

CHAPTER 2

PRESIDENT, CONGRESS AND NGOs

The US policy on climate change and global warming has been an evolving process. The US has played different roles from being the leader in climate science, to climate change denier, to questioning the very science of climate change and the denying the anthropogenic cause of climate change, to admitting that the climate is indeed changing and finally accepting the human-induced effects on climate change. The US has always been an ardent supporter of the voluntary nature of whatever reductions have to be made in the emissions of greenhouse gases and does not seem to support legally binding or mandatory reductions. When Heraclitus said that "change is the sole constant in life", he laid down a complex truth with much simplicity. The role that the Executive- the US Presidents have been performing in the struggle against climate change gives an idea about what Heraclitus said. The presidencies from H.W. Bush to Barack Obama demonstrate clearly the change inherent in the policy planning for climate change; climate change science; climate change denial and climate change acceptance. The Congress, being the platform where each bill is debated upon, wields immense pressure on the policy makers, for it allocates the budget required for the implementation of the bill and has what is called the 'congressional oversight'. The US has been a world leader in major international events, but it bows down to domestic constraints put by the Congress and the constitution. A look at the history of climate change legislations reveals that the Republican Party, backed by the conservatives has thwarted efforts to introduce bills concerned with climate change.

Non- Governmental Organizations (NGOs) too need to be mentioned when discussing climate change negotiations and policy making process, as they represent a major force rallying behind the climate change cause. NGOs work on the sidelines, educate people about what is happening and calls for immediate attention and work as a pressure group on the government of any country to take action. This is true of the NGOs working in the United States of America as well as those working for the United Nations Framework

Convention on Climate Change (UNFCCC). There has been a significant rise in the number of NGOs participating in the UNFCCC process starting from the Rio Earth Summit in 1992, which shows the apparent increase in the level of awareness pertaining to the climate change issue.

2.1 From H.W. Bush to Barack Obama:-

The Constitution has wielded immeasurable power in the hands of the US executive - the President. The President has adequate room for maneuver and has been exercising the Presidential powers from time to time. The President can issue executive orders, that is, the President can by using his discretionary powers, order the diverse federal agencies to take certain actions. In carrying out their duties towards the nation, most notably, President Obama and Clinton have made use these executive orders for certain climate change related matters. The period between the presidencies of President H.W. Bush to Obama show how the Presidents perceive climate change and are willing to which extent to fulfill the promises made regarding climate change.

H.W. Bush soon after assumed Whitehouse office in 1989 and promised to the American environmental scientists that a lot more would be done on the global warming issue. President Bush came power in 1989, the administration saw an opportunity to raise the issue of climate change and global warming, something which his predecessor Reagan administration talked about but took no major action for. President Bush while campaigning for the elections had promised a conference on environment. Bush had said that the agenda for this conference would be clear: "We will talk about global warming. We will talk about acid rain. We will talk about saving our oceans and preventing the loss of tropical forests. And we will act"(The Bryan Times September 1,1988). When President Bush backed up the revisions to the Clean Air Act of 1990, Bush tried to signal at the environmentalists that even amidst strong antagonism from both the parties inside and outside the Congress, he was trying to safeguard American environment. At the end of the first year of senior Bush's term, his environmental enthusiasm was replaced with skepticism regarding global warming, emanating from the wide circulation of reports by

climate change denial scientists. These denial reports were for the most part financed by conservative families and industrial groups which were hostile to any form of environmental regulation. The Global Climate Coalition was heading the argument against the science of climate change. What needs to be mentioned here is the point that this global Climate Coalition was sponsored by big business groups and corporations, which saw cuts on green house gas emissions detrimental to their cause.

Then came the year 1992, a period of high noon for the climate change negotiations. The Rio Summit has been hailed as a 'turning point' or a 'watershed event' in the history of climate change negotiations. The year 1992 saw leaders from 172 countries participating in the Rio 'Earth Summit' (3-14 June, 1992). In the negotiations leading up to the Rio conference, the US was vehemently opposed to any effort in the direction of the formation of any targets and even time tables for emission reductions, even though many of the developed countries and EU were in favor of establishing such structure. President of the World Resource Institute, Mr. James GustaveSpeth, stated that "our government is not accepting the responsibilities that come with world's largest economy" (Eugene, 1992:33)

Initially, the US had argued for climate change as "the most complex and critical environmental issue…an enormous unplanned experiment that is slowly changing the composition of the Earth's atmosphere", but eventually as the conference proceeded, the US position took a turn and prevented any efforts to reach legally binding emissions reductions targets. The conference saw resentment from the participant nations on the finance issues and mechanisms. "Developing countries advocated establishing a new fund while developed countries wished to use the Global Environment Facility (GEF), a joint project of the World Bank, UNEP and UNDP that was established in 1991" (Bodansky 1994: 33).

On the subject of the Convention on Biological Diversity, which stresses on the protection of species and lost species, the conservation policies of the countries and their national plans on the issue, a majority of the countries from the developed and developing world signed the Convention. The US did not agree to sign the convention and was faced with criticism from the rest of the environment community. President Bush reserved objections to the convention on the grounds that the convention would be used

by the developing countries to cull out humongous amounts of money from the developed nations for the preservation of endangered species and that the convention would abridge the intellectual property rights of the American innovators in the field of biotechnology. Not only did the US not sign the Biological Diversity Convention, it went to the extent of attacking the other industrialized nations like Canada, UK, Italy, and France who broke the trust of US and became signatories to the convention.

The Rio summit saw the real face of the Bush administration, where he threatened that the US would not participate if the members were to comply with any legally binding emission reduction targets. Throughout the negotiations the US opposed any argument over legally binding targets and timetables proposed by other advanced industrialized nations (Harris 2000). The very proposition of cutting back on the GHG emissions was met with opposition within the Bush administration itself, because any reduction in emissions was viewed as cutting back on industrial activity. The business groups along with some politicians were tensed about the effects of emission reductions on the US industrialhealth. It was believed that it would put the US economy at a comparatively less advantageous position. In 1992, the global south was firm on the reality that if they take up any binding GHG emission reductions, their already economically strained growth would affect efforts to alleviate poverty and hunger in their countries. These nations pointed out to the conference participants that, 'climate change issues by and large emanate from the larger problems related to unequal world economy' (Gupta, 2000). Though the treaty was later signed by the President, but by then it was almost an effort in vain.

President Clinton came as a beacon of hope for the environmentalists. In his inaugural address in the year 1993, President Bill Clinton said: "there is no longer a clear division between what is foreign and what is domestic. The world economy, the world environment, the world AIDS crisis, the world arms race-they affect us all" (Clinton, 20 January 1993). One of the most important things to remember is the Congress was largely Republican controlled. When President Clinton came to power, he was widely appreciated by the environmental community on assertion that the country would by choice maintain its green house gas emissions against 1990 levels by the year 2000. Vice- President Al-Gore was of the view that President should go ahead with the

'Climate Change Action Plan' and when the President upheld the plan, it meant that the country was formally committing itself to the emission reduction targets endorsed by the Rio Summit. This action did not please the more conservative elements in the Congress and we should not forget that Republicans were in the hold of the Congress floor. The general mood prevalent at the time reflected ignorance and denial of the science behind climate change, even going to the lengths of distrusting the United Nations' process itself.

Clinton administration's advances in the environment policy making during the initial years were quite modest, like the humble improvements in energy efficiency. One of the earliest policy initiatives announced by the newly-assumed Clinton administration, in the spring of 1993, was a BTU tax, aimed at raising the price of gasoline, electricity, and other forms of energy in order to raise new revenue and encourage conservation. But opposition to the proposal from senators representing energy producing states killed the proposal, and the administration could only salvage 4.3 cents per gallon gasoline tax increase as part of its deficit reduction plan (Bryner1998: 195-196). In an address to the joint session of the parliament, Clinton stated that: 'US must take the lead in addressing the challenge of global warming that could make our planet and its climate less hospitable and more hostile for the human life" (White House 1993). In December 1995, the Intergovernmental Panel on Climate Change (IPCC) released a report which, for the first time gave some signs of reliability about the role of human activities in the global warming process. In 1996, the Secretary of State-Warren Christopher argued that, "a foreign policy that failed to address (environmental) problems would be ignoring the needs of the American people" (Schweid 1996). US endorsed its commitment to the Common but Differentiated Responsibility (CBDR) principle afterwards and in the Geneva Declaration, 1996, the US recognized that the science of climate change is real and maintained that the CBDR principle should the foundation on which future climate change negotiations should go on.

Over time, the scientific consensus on the increased human-induced climate change gained more strength, there was an acceptance that these changes in the climate would be detrimental to the human kind itself, as it would lead the world in the direction of sea-

level rises, increased global temperatures, uneven and even unpredictable precipitation, reduced winters in some areas to increased duration of winters in some areas, to droughts and increased frequency of floods. There was a realization among the world community that countries like Japan and US would not be able to meet the targets defined, parties to the UNFCCC, decided that the voluntary nature of the emission reduction targets are not sufficient and things need to work for binding emission targets and an agreement that would lead to the same.

In the year 1995, the first Conference of Parties (COP) negotiations happened in order to materialize an agreement with legally binding targets. This round of the meeting of Conference of Parties held in Berlin, Germany, culminated in the 'Berlin Mandate'. The COP gave birth to the 'Ad-hoc Group on the Berlin Mandate (AGBM) to work towards the fulfillment of an agreement or a protocol It was decided by the parties in the Berlin Mandate to work in the direction of taking measures for the period further than the year 2000, which may go to the extent of strengthening the commitments of the developed nations. The Berlin Mandate provided an exception for the developing countries, which exempted them from taking emission reductions. The Berlin Mandate reflected the firm belief of the environmental community in the UNFCCC principle of 'common but differentiated responsibilities' and it was acknowledged that the developed countries (Annex I countries) should be the ones taking an initiative for emission reductions, because only then the economically weaker countries could take inspiration and work towards climate change emission reductions. The Conference of Parties (COP 2) held at Geneva, Switzerland, in July 1996, revealed the US stand on the climate change issue, whereby the US rejected the homogenous "harmonized policies" and was seen hankering after flexibility and appealed for "legally binding mid-term targets".

The negotiations that were started in Berlin paved the way for another milestone in the history of international climate change negotiations- the UNFCCC process, is the Kyoto Protocol, 1997. The protocol was essentially about the historical role of the industrialized countries in the peaking of the green house gas emissions and speeding up of climate change. It puts responsibility on the shoulders of the developed countries, owing to their historical role in GHG emissions, to reduce the present levels of emissions. The protocol calls upon the nations to reduce the human induced anthropogenic green house gas

emissions in the best possible way to reflect the differences in GHG emissions and the abilities for possible reductions of the member countries.

The opponents of the Kyoto Protocol in the US argued that the terms embodied in the Protocol are prejudiced and would be rough on the US economy. The argument was that any new agreement on the climate change process should be fair and equitable and must involve both the major and minor polluters of the earth, that is, the process and the agreement should be made such that the burden must be shared by the developing and the developed countries alike. Though the developed countries are the ones who have caused most damage to the environment in the past centuries, it cannot be negated that the trend of GHG emissions coming from the developing countries is seeing a massive rise. The overall process should be one which takes into account the emissions from the developing countries as well.

The opponents of the Kyoto Protocol in the US had made a case on the uncertainty of the climate science and they called out for fresh research on the subject. What they drew attention was that fossil fuels are the main source of energy in the United States, the US was heavily dependent on fossil fuels for their energy production. The cuts that were put forward in the Kyoto mechanism would have meant huge cuts in fossil fuels. During the time that the Kyoto Protocol was being negotiated, the world did not see spread of alternative and renewable energy technologies like the world is witnessing today, so it was believed that until and unless there was a massive shift from the coal-powered energy to alternative energy sources, the industries would be knocked downed considerably. Cheaper labor and less stringent environmental laws in the developing countries would affect US competitiveness.

Inside the Kyoto Conference, the US maintained that the major developing nations should also share the burden of binding emission reduction targets under the conditions of the Kyoto Protocol. Meanwhile, a look at what happened in the US is important to better understand the politics behind the US position on Kyoto protocol. Even before the Kyoto process could begin, there was much hullaballoo over what the protocol would embody. The Republican Party, the conservatives and the big corporations were not in favor of the protocol. Various reasons were cited for the opposition to signing any treaty on climate change, most important being the economic toll it would have on the

industries within the US, terror of the carbon tax, it was also argued that it would raise the prices of gasoline, and that it would be economically beneficial to the developing countries. All these arguments and debates even before the protocol was signed, led to the culmination of the Senate Byrd-Hagel Resolution (25 July, 1997). The Byrd-Hagel Resolution states:

"(1) the United States should not be a signatory to any protocol to, or other agreement regarding, the United Nations Framework Convention on Climate Change of 1992, at negotiations in Kyoto in December 1997, or thereafter, which would--

(A) mandate new commitments to limit or reduce greenhouse gas emissions for the Annex I Parties, unless the protocol or other agreement also mandates new specific scheduled commitments to limit or reduce greenhouse gas emissions for Developing Country Parties within the same compliance period, or

(B) would result in serious harm to the economy of the United States; and

(2) any such protocol or other agreement which would require the advice and consent of the Senate to ratification should be accompanied by a detailed explanation of any legislation or regulatory actions that may be required to implement the protocol or other agreement and should also be accompanied by an analysis of the detailed financial costs and other impacts on the economy of the United States which would be incurred by the implementation of the protocol or other agreement" (Senate resolution 98, 1997).

The resolution was an embodiment of the concerns about the plausible implications of the protocol. There was a mounting concern that other countries would stand to gain if not all the countries reduced the GHG emissions at the same time. The condition absolutely compulsory for any climate treaty would be participation of the developing countries; the developing world could not be let off while the developed world carries on with its duties. The Kyoto Protocol became the victim of the domestic tussle between the Republicans and the Democrats, and the environmental groups and big business groups.

What could be the possible result of such restrictions at the domestic front? Yes, even though the US signed the treaty, President Clinton, succumbed to the massive pressure and did not submit the protocol for Senate ratification, for he knew that it would anyways not be passed by the unsympathetic Senate.

When we talk about continuity in the climate change policies adopted by the American presidents, we see a clear break from the past in the views espoused by the G.W. Bush administration. Robert Gottlieb states that, "first there was Dick Cheney, working closely with his oil executive friends gutting any climate change initiative and other potential environmental measures. Then came the Bush tax cuts and the reappearance of a deficit along with its goal of reducing any public/governmental role" (Gottlieb: 2009, 307). Where the predecessor Clinton administration was especially vocal about the science of climate change and recognized the human hand in exacerbating the climate change crisis, the G.W. Bush administration was skeptical of the science and he did not consider human deeds being the foremost instigators of climate change and was of the view that uncertainties are still there in the science of climate change. President Bush wanted a climate policy that would address the climate change menace globally, take into consideration the economic prospects and economic growth, give room to flexibility, time, voluntarism and his view on the Kyoto protocol were the last blow to the UNFCCC process started off in Rio in 1997. The Bush government was concerned about the economics more than the environment, which means neglecting long term calamity for short term economic goals.

Any discussion on the GHG emission cuts would lead into the direction of time to develop the climate change science, which was hazy over the global warming issue. Bush also called for cost effective technologies. President Bush and his administration had a strong preference for an energy policy that would not easily correspond to the goals of the Kyoto Protocol (Lisowski, 2002:101-119).The turning point was when in March 2001; President Bush revealed that the US would not ratify the Kyoto protocol, as it lets off the hook countries like China, India, Brazil, to name few, from emission reduction commitment. One of the principles which should guide the alternate plan proposed by the

Bush administration, which would incorporate cost-effective, market-incentive based programs, could be:

"We must always act to ensure continued economic growth in prosperity for our citizens and for citizens throughout the world.... And finally, our approach must be based on global participation, including that of developing countries whose net greenhouse gas emissions now exceed those in the developed countries" (George Bush: 2001).

When the National Academy of Sciences released a report in 2001, on global warming, the public and the climate change skeptics were made aware of the fact that global warming was definitely occurring and human induced activities were a major source behind the rising temperatures around the world. When pressure mounted on the administration, especially from the climate aware Europe did the President institute the US Climate Change Research Initiative (CCRI).

The impact that the Bush government left on climate change scarred the US policy on climate change. The element of trust, which is exceedingly vital in any international treaty or negotiations, was lost. Its reputation as a leader in the climate change was replaced by that of climate change denier; it became in essence the face of the conservative ideas. The world community was left heartbroken by the "beacon of light". It was only later due to the effects/impact of climatic disasters like hurricane Katrina which made him accept that yes, the human induced climate change is an issue that demanded urgent attention, but the damage was already done- both to the climate and the image of US on climate change.

President Obama came in as a harbinger of hope for the environmentalists. Obama administration by far, has been more vocal about the issue of climate change, has struggled for environmental laws and legislations. President Obama has been working tirelessly towards reclaiming the US leadership on climate change, has been engaging with nations bilaterally and on international platforms- multilaterally. More so, President Obama after coming to power accepted that climate change is real and happening; that human activity has contributed drastically to the detriment of the world environment. During his election campaign it was made sure that the public knew that Obama would work towards climate change and so, the New Energy for America Plan was introduced

which emphasized on reliance on renewable energy sources, highlighted the need for reduced dependence on foreign oil and that more needed to be done to fight climate change.

The White House Office of Energy and Climate Change Policy were set up by President Obama. President Obama even asked the Environmental Protection Agency (EPA) to review President Bush's rule that ruled out centralization of carbon dioxide emissions (Knobloch 2009).The government has been working on building alternate energy sources like the wind and solar energy programs. It is not only the temperature rises that the administration is concerned about, it worries about the health effects and the physical impacts triggered by climate change. The increasing number of cases of asthma, the recurrent floods, hurricanes, crop failures due to droughts is all bases of concern and a heightened activism regarding climate change.

On one occasion President Obama said: "global warming is not a someday problem, it is now. We are already breaking records with the intensity of our storms, the number of forest fires, the periods of drought. If we act now, it doesn't have to be."(Obama, 8 October 2007). Even though the administration tried to pursue policies for the protection of environment, it wasn't smooth. The administration had to face the split in the Congress when the Waxman-Markey Climate and Energy Bill (2009) were introduced on the Senate floor. The bill called for a "nationwide cap on emission that would be in place by 2012 that would reduce emissions by 14% below 2005 levels by 2020 and by 83% below 2005 levels by 2050" (US Department of State, 2010). The bill demands the electric utilities to meet up 20% of their electricity demands from renewable energy sources; companies could sell and purchase the right to emit. The bill saw an acceptance at the House of Representatives (219-212 votes), but failed to garner support on the Senate floor. Those against the bill argued that the bill would export the American jobs to other countries and would result in higher prices of electricity and taking the lead was Senator Jim Inhofe, The Competitive Price Institute, the Heritage foundation, the National Association of Manufacturers.

The year 2009 saw an important event- The Copenhagen Conference on Climate Change. When Todd Stern was employed as a Special Envoy for climate change, Todd made a case for strong US role in the climate conference at Copenhagen. Even when the whole world was coming together to negotiate about an issue that demanded pressing attention, US set out its targets at almost one of the lowest in the whole world. The world community and among them the Association of Small Island States and the developing world claimed that the accord which came out of the deliberations from the Copenhagen conference was essentially one which favored the industrialized world over those who had almost no part in the process of climate change and still faced the risks of submersion and doom. The Conference saw no binding legal emission reductions plan, which essentially meant that the very purpose of the conference was defeated.

The climate has changed, so have the US efforts changed to combat climate change. Cities are the frontrunners of the US process to curb climate change. Not only does the US have federal policies, the US cities and states have become more positive in outlook towards cutting down on emissions, planning cities, and reducing transport generated carbon emissions, new laws for environmental protection, selling carbon credits, increasing renewable energy generation and encouraging efficient energy use. There are so many examples of cities and states taking action against climate change in their own ways.

California has been a pioneer in climate change policies. The California Vehicle Global Warming law requires the automakers to cut their emissions by 30% by the year 2016. California is the lead example of how states can devise climate change policies and voluntarily pledge to cut down their carbon emissions. California has established a state climate action team to work out strategies to reduce greenhouse gas emissions, based on technology and regulation. California has also promised a 25% cut by 2020 and 80% cut on greenhouse gas emissions by the year 2050 and not only the citizens, even big business conglomerates too have assured to comply with the state reduction targets. What is more are the various other research programs and strategies adopted by the state to combat the threat of climate change. California's climate change policies have been built on the best available scientific understanding and ongoing research specially done by

state agencies to elucidate California-specific knowledge requirements. The state has also come up with a Desert Renewable Energy Plan, which focuses on protection and planning for the desert ecosystems and also to come up side-by-side with renewable energy projects.

It is not just California that has adopted measures to reduce the effects of climate change; San Francisco, New York, Arizona, Connecticut, to name a few. New York has made possible the 'plaNYC' initiative, which looks into the matters related to climate change, strengthen the economy, plan for a better life of the residents of New York. The plan essentially labors on the issues of water management, solid waste, climate change, transportation, water supply and a clean and healthy air to survive in. One of the most ambitious projects under the plaNYC is the 30% reduction of greenhouse gas emissions by the year 2017.

The US has federal policies working to reduce the effects of climate change, and in June 2014, the Environment Protection Agency(EPA) released the Clean Power Plan — the first-ever carbon pollution standards for existing power plants that will protect the health of our children and put our nation on the path toward a 30 percent reduction in carbon pollution from the power sector by 2030. In addition, the Plan will lead to climate and health benefits worth an estimated $55 billion to $93 billion per year in 2030 and will cut pollution that leads to soot and smog by over 25 percent in 2030. To reduce emissions of hydro fluorocarbons, the United States is toiling through both domestic actions and international diplomacy. Domestically, the Environmental Protection Agency (EPA) proposed two new rules in 2014 under the Significant New Alternatives Policy (SNAP) program that would smooth the transition from HFCs to climate-friendly alternatives by expanding the list of acceptable alternatives and limiting use of some of the most harmful HFCs were lower-risk alternatives are available. In addition, the President has asked his Administration to procure cleaner alternates to HFCs when possible and changeover time to apparatus that uses safer and more sustainable options.

The oil spill in the Gulf of Mexico (2010) alerted the President over what could happen to the marine life and made him push forward for climate change legislation. In the same year, 2010, was introduced the Kerry-Lieberman Cap and Trade Bill (American Power

Act). It was introduced by Senators John Kerry(Mass. Demo.) and Joe Lieberman (Conn. Rep.). The bill was aimed at putting a cap and trade system in place for green house gas emission reductions in the US. The bill argued for job creation, 4.75 percent reduction below 2005 levels by 2013; a **17 percent reduction by 2020**; 42 percent by 2030; and finally **83 percent by 2050**, enhance national security, stimulate clean energy mechanisms. Reference should be made of the fact the bill received a lot of flak from the environmental community as it supported off-shore drilling along most of the US coastline and even though Obama asked for the drilling to be put on hold, the environmentalists were still skeptical that the administration might restart the drilling. Efforts were built upon the government by the lobby groups to reject any such climate legislation and were by the Republicans. It has even been argued that President Obama could not even manage to gather the backing from his own party people during the discussion on the bill.

One issue that seemed to be a bone of contention between President Obama and the Republicans was the decision regarding the Keystone XL Pipeline. The Keystone XL Pipeline is an addition to a pipeline which would take heavy crude oil from Alberta (Canada) to Illinois (US). The House passed the bill on the pipeline in the year 2015. What needs to be noticed here is that the Senate, which was heavily controlled by the Republicans, too passed the bill. The bill gained only the veto from the President, when the bill went up for his signatures. Earlier in the year 2013, the President had contended that the pipeline would not be in the interest of the nation if it raised the carbon emissions of the country. The Senate could not supersede the President's veto.

In the year 2012, a report from the World Resource Institute argued that it is time for the Obama administration to act upon the goal of reducing emission of the GHG emissions by 17% below the 2005 levels by the year 2020, whether there is a legislation in place or not. In his second inaugural address, President reaffirmed his position on climate change and declared that climate change was a priority issue for the US government and it is in the same year-2012, that hurricane sandy which wrecked havoc on US. This was one of the main reasons why it was more urgent to address the challenges posed by climate change and alerted everyone that natural disasters do not have territorial boundaries, their

effects spread across boundaries. When the administration tried to put carbon dioxide as a pollutant under the prevailing laws, it was met with fierce and blocking efforts by the Republicans.

The US position on the Kyoto Protocol under the Obama administration, has been nearly the same as the Bush administration, in part due to the republican blockades, congress disinterest, the industry pressure and the competitiveness in trade. The classification of countries into the Annex I and Annex II countries has not gained acceptance by the US policymakers. According to Todd Stern:

> But what is unacceptable in our view is to use fixed, 1992 categories to determine who is expected to do what in a new agreement taking effect nearly 30 years later. The original division of countries, after all, was based on material circumstances, some unchanging feature of national culture or geography, and those material circumstances have changed, sometimes dramatically, in the intervening years and will keepchanging in the years ahead. In 1992, Non-Annex 1 countries accounted for 45% of global greenhouse gas emissions from energy and industrial uses. Now they account for some 60% of emissions and are likely to account for some 68% by 2030. Four Non-Annex 1 countries are now in the OECD. Korea is ranked 12th on the UN Human Development Index, just behind Canada, and is listed by the IMF as one of its 35 "advanced economies." Sixty-six Non-Annex 1 countries have a higher per capita GDP than the least wealthy Annex country today. And China's GDP, both aggregate and per capita, has grown tenfold since 1990, while its share of global emissions has increased from 10% to 22%, and its per capita emissions are higher than many countries in Europe (Stern, 22 October 2013).

Though Stern went on to acknowledge that the industrialized developed world cannot shy away from the responsibility of having caused much damage to the climate. At the same time Stern (22nd October 2013) points out that, "Though U.S. bears the 'historical responsibility' for climate change problem; its past emissions were not with the knowledge that, it was causing damage to the global atmosphere."

2.2 THE REUBLICAN-DEMOCRAT DIVIDE AND THE CONGRESS

The Congress is an important section which plays an essential role in policy formulation, be it domestic or international. The Congress through its legislative powers can make or break any bill and hence, its importance in the climate changes discussions. Any treaty on climate change has to pass the test before the Senate, for the US to become a member of the treaty in question, that is, Senate ratification is obligatory. It is the Congress where all the hearings regarding any bill materialize and debates over how to address the issue nationally. The power of purse gives the Congress an edge over the Executive, as budget allocations to various programs and policy measures are done by the Congress, which may actually curb the funding of climate change proposals.

Once a bill becomes a law, the President is bound to implement it. The Republican-Democratic Party divide over issues of importance makes it look like a deadlock and this has been injuring any step forward in climate change policy formulation at home and internationally on the UNFCCC platform. A look at the past shows that the support for climate change and the environment has been nonpartisan. Republicans have been more skeptical about climate change science when compared to the Democrats. This has played to the disadvantage of climate change proposals, with many of the international treaties and policy measures not being ratified by the Congress. The Republicans, more often than not have tied the hands of Presidents like Clinton and Obama.

As in the case of President Clinton, Republicans not only obstructed climate related proposals but also, through the intricate workings with the Conservatives argued that the science of climate change was still in a nascent phase of development. Some even went to the lengths of denial of climate change itself, while others denied the human hand in any climate related phenomenon. When the talks about the Kyoto protocol were held, the Republican were of the view that the protocol would result binding emissions, which would be dangerous for the economic interests of the country, since manufacturing would be lesser it would obviously lead to decrease in the number of jobs. The list doesn't stop here, it was also claimed that the developing countries would stand to benefit from the protocol and the major disappointment was the Senate rejection of Byrd-Hagel Resolution, which was passed 95-0. Senator Chuck Hagel (Neb. Rep.) protested that the protocol was 'unfair to the United States' (Bryner 2001:147). Even before the Kyoto

Conference could start, Senator Hagel proclaimed that: "there is no way we will even be close in the Senate to ratifying this agreement. We will kill this if the President signs it" (Congressional Record, 25 July 1997).

The height of Republican-Democrat split was apparent during the Bush administration as well as the Obama administration. Republican Senators have continuously denied the science of climate change. Charges have been laid on the Bush government for misleading the public, sponsored by conservative think tanks, asking the climate change scientists to downplay the seriousness of the threat posed by climate change. The International Alliance of research Universities too argued about the condition of prevalent climate change cynicism and says this cynicism: "was largely generated and kept alive by a small number of conservative think tanks, often with direct funding from industries having special interests in delaying or avoiding the regulation of greenhouse gas emissions"(Dunlap2009).

There have been republicans like Senator JamesInhofe (Okla. Rep.), who have earlier in their writings have even vouched for the fact that the increased carbon dioxide in the atmosphere would only be beneficial for the agriculture of the country, since rice and wheat grow preferably better when the carbon dioxide levels are increased in the atmosphere. Senator James Inhofe, who has always been critical of climate change, calling it a hoax, tossed a snowball on a Senate page making a case against scientists' evidence that 2014 was the hottest year. In the year 2015, the same Senator Inhofe targeted the Pope when he came out in support for climate change and climate change science, saying: "God is still up there" (The Guardian June 11, 2015).

2.3 NON-GOVERNMENTAL ORGANIZTIONS:

Over the years, participation of the non-governmental organizations in the climate change negotiations has increased at an unprecedented rate. The significant rise in the numbers of non-governmental organizations can be seen during the period between the Rio conference (1992) and the Paris (2015) climate summit. The notion that international negotiations involves participation only from the 'states' is slowly changing, to incorporate the voice of these groups, who represent the voice of the masses all over the

world. Non-governmental organizations (NGOs) have emerged as a voice to raise critical questions regarding the gaps that the states leave in policy making processes.

NGOs to a large extent have worked towards safeguarding the environment. Another group which needs emphasis, which has a strong voice in domestic as well as international climate change related decisions, is the Business-industry group which in the past lobbied hard to undermine any efforts to build a strong case for climate change. This is especially true of the United States of America, where the business groups have in the past financed studies denying the climate change science and have worked to the detriment of climate change legislations. However, this has been changing, though the pace has been sluggish, but it is definitely transforming.

According to Park Jacob (Harris 2000: 77), the groups can be classified under three distinct categories:

1) Organizations such as Greenpeace Peace and World Wide Fund come under the classification of NGOs that work internationally;
2) Groups like the Sierra Club which have been actively working for environmental encouragement within the United States;
3) Institutions and centers of research like the PEW Centre on Global Climate Change. This third group also encompasses the think tanks working on climate change and environment.

When we read about the sudden rise of NGOs in the climate change negotiations, the first question that strikes the mind is why is it that the world needs these NGOs, when we have states to lookout for our interests and concerns? What do they do? NGOs, in essence have surfaced because the predicament climate change has caused cannot be resolved by states alone, since the problem is multi-dimensional, effects human life in subtle and direct ways, the state needs to know the difference in perspective of the rich, poor, global north and global south, the policies that can be adopted on the ground levels. NGOs work on the ground level and hence, can make the governments of the world aware of the situation at hand and the possible implications of increasing climate change.

Non-governmental organizations are critical for the voice of the citizens to reach to the leaders and those who formulate the policies. Since they work on their own, they conduct researches which add to the scientific analysis to the political process. These groups have

the scientific know how, scientific information, analyze this information and then add to the existing knowledge of climate change. On the political level, NGOs have been known to directly engage with the negotiators and delegates. Due to their specialized knowledge they help the negotiators in setting up agendas for the climate change conferences. NGOs work as watch-dogs when governments fail to keep up to their promises and may use the naming and shaming process to get the states to work harder.

These groups and organizations create awareness in the public on climate change, global warming through conferences and other varied public activities (Falkner and Harris 2001: 159). Though these groups do not have powers like a state to legislate, tax or even draw boundaries, they have massive power in the public realm, where they influence the public opinion, garner support against government policies and even provide substantial economic assistances. It has been argued that these organizations not only work for the developed countries but they are quite active laboring for the rights of the weaker states and the less developed world. In fact, they have been toiling effortlessly for those smaller states that are the worst hit by the catastrophe cause by climate change, whose very existence is in question.

NGOs bring to light the inter-generational rights, that is, the rights of the future generations to inherit a safer and healthier earth, the earth which is green, where they would not have to bear the sun scorching over their heads, earth which is habitable and not flooded, where the temperatures don't at the extremes. It is through their lobbying efforts that they achieved such prominence. NGOs organize side-events to the major climate conferences, marches, plays, skits, to list a few of the strategies devised, to garner support and spread awareness among the delegates and the public. In doing so, they place a lot of pressure on governments.

In the United States of America, for instance, groups like 350.org, Friends of the Earth, Public Citizen, Greenpeace, World Resource Institute, US Climate Action Network, and The Climate Reality Project, to mention but a few, have been working tirelessly, for action on climate change. Greenpeace, for instance masters the art of drawing attention by the mass mailings, local organizing, stunts and skits to publicize an issue (Princen and Finger 1994:34). Greenpeace works for the protection of ancient forests, saving the oceans by curbing activities like whaling, it works towards stopping climate change and

providing effective solutions for clean energy mechanisms. Efforts by 350.org saw impacts on the fossil fuel industry, efforts towards stopping the Keystone XL pipeline and online and public activities during and before the Paris climate change conference. The World Resource Institute silently works on climate change churning out reports on the total impact of the change on every one aspect of human life impacted by climate change. The United States has seen immense lobbying from groups like these, which have positively impacted the policy process inside the US.

Moving on to business and industry groups, we see that all was not well when the climate efforts by the US Presidents started. The business and industry groups yield enormous pressure on the executive to not to sign any treaty that might negatively impact upon the business interests of such groups. Business and industry groups as an added advantage have better contacts with the delegates in climate change negotiations. Since these groups have huge proportions of money rallying behind them, we see them having more weightage than the environmental NGOs and they did use all their might in not letting the climate legislations pass through the Congress successfully.

Looking at the domestic politics in the United States, over the years, it has been unmistakable that the fossil fuel industry has put up a dominant industrial-business face to derail endeavors by the US government to reduce GHG emissions, which is based upon the fossil fuel industry's position in energy production and business manufacturing. Well the big business and business lobby groups have very often made use of discriminatory and outdated scientific studies to raise questions on the credibility of the evidence suggesting existence of climate change and global warming and the point that it is in fact the fossil fuels that have made the situation worse. All this has been done to sabotage the solidarity on climate change science, UNFCCC process and the source of climate change.

The Global Climate Coalition (GCC) waged multi-million-dollar campaigns to harm the reputation of climate change science in the climate change negotiations. It also made use of newspapers, television and radio to harm the cause of climate change. The GCC was set up in the year 1989 and since then it had been employing huge resources to wage a war against climate change negotiations and raised campaigns involving piles of money to spread misinformation. By making speeches before the US Senate and President, it

warned that a treaty that did not involve the participation of the developed as well as the developing world, would harm the citizens of the United States of America and lower their standard of living (Carpenter 2010:314).

GCC was seen employing widely known climate skeptics and deniers like Robert Balling, Patrick Michaels and Fred Singer as the established pundits at press conferences to raise concern and question the reliability of recognized climate science and the reports and findings of the IPCC (Gelspan 1998: 136-145). Firms like ExxonMobil have always undermined the study of climate science and the firm's emissions have been more than its rivals. ExxonMobil has tried to portray its non-environment position as reasonable by citing the Senate Resolution 98 (SR-98), the Byrd-Hagel Resolution on the aptness of its economics. It has been argued that ExxonMobil has even sponsored the skeptics and climate deniers. Groups like Koch industries have been backing the science of climate science denial.

Lobby and business groups have all played the economics card to advance their selfish interests. They have claimed time and again, that any reductions in emissions would leave the economy and the economic growth of the US in grave circumstances. Not only do they talk about the economy, they criticize the advances made by the government to achieve its emission reduction targets stating that all such policies undertaken by the government would leave the American population with lesser jobs, with countries of the developing world getting more American jobs.

These lobby groups have been asking the government to pressurize the developing countries to take up binding emission targets too and share the burden. At the same time, these lobby groups have been seen to lobbying the developing countries to discard any compulsion which might be detrimental to their economic growth.

But eventually, the major business groups that formed the GCC started leaving GCC and recognized that burning of fossil fuels might actually be responsible for the rising temperatures. Faced with domestic restrictions on chlorofluorocarbons, DuPont a major business firm changed its stance on ozone depletion and gained a position on manufacturing alternatives for products producing chlorofluorocarbons (O'Neil 2009: 63). Many industries in the US have come out in open to say that ignoring climate change is only working against them and some industries have actually flourished as the

emphasis on renewable sources of energy has brought to the fore more lucrative and less polluting alternatives for business. After the end of the Kyoto process, the industries accepted the reality of climate change and do not see the point of defying the validity of climate change science.

CHAPTER 3

THE COPENHAGEN (COP15) CLIMATE CONFERENCE, 2009

Negotiations are long term processes involving various levels of complexities. Negotiations, as complex as those involving climate change are even more difficult to come to an agreement, because of the deep rooted divide between the nations on the responsibility over whose share is larger in flaring up the greenhouse gas emissions. The developing world pin points the historical responsibility of the industrialized developed world which led to the increased greenhouse gas emissions in the atmosphere. The developing countries take the attention towards the fact that they have to grow economically, the point in case being that they are still struggling hard to elevate their citizenry from massive scales of poverty and if they cut down on their emissions, it will only negatively affect their growth opportunities. This is just one side of the coin. The other side, the side of the developed, industrialized nations focuses on the need for the developing countries to cut down their emissions. What they argue is that when they were developing and when all the industrialization happened, they did not have the knowledge that the emissions were actually contributing towards a more hostile environment. For the developed world, technology holds the answer to emission reductions and with the advanced green technologies of today; they want the developing countries to bring down their emissions considerably. When the developing countries point out that for them to work on their climate change related issues and policies to curb carbon emissions, they need financing from those bearing the historical responsibility (the polluter pays principle), and it becomes difficult for the other side to converge on an amount that would be beneficial for the task. They are also apprehensive about whether the developing world will honor their promises and not take undue advantage of the situation.

3.1 THE ISSUES BEFORE THE CONFERENCE:

The deep rooted divides became even more prominent at the Copenhagen Conference on climate change (COP15), 2009, with the result culminating in the Copenhagen accord

which was only taken note of and not duly adopted, because of the lacking consensus and distrust among the nations. Before the commencement of the conference, the conference was called the last ray of hope, 'Hopenhagen', due to the largely jubilant and hopeful atmosphere which surrounded the conference. The world was watching with gleaming eyes. There was hope that the conference would bring together the countries and a path-breaking treaty would come there from. The general mood month before the conference was optimistic. The tendency was to talk about the US-China rift on climate change policies and adaptation measures and the world had come to realize, that, for any successful agreement to happen, the US and China ought to work together. As these two countries are the first and the second largest emitters of greenhouse gases (GHG), an effort was really needed by the two giants to save the planet Earth.

So, what were the issues before the conference which needed to be addressed and resolved? What was the world speculating about? What were the sensitivities of these issues? How were the US and the world ready to face the challenge? What were the negotiators talking about? What was the common ground on which everybody agreed? Well, issues that were still bothering the world were many. The first and the foremost, was the role the US would play in the conference. Trust is essential for anything to succeed, but the world community lacked trust in the US. Why? The answer lies in the US inability to even submit the Kyoto Protocol for senate approval. It is a known reality that for any treaty, any agreement to be a success, the US ought to be a party to it and must bring it in force domestically, but the US failed to this. Then the Bush administration's outright rejection of the Kyoto Protocol and the subsequent policies adopted by the administration, rejection of the science behind climate change made a permanent dent on the image of US. From being a world leader to climate change denier, the US had lost its leadership and moral ground in the climate change arena and in conferences like these, trust is crucial for progress.

The developed countries wanted a simple, singular agreement which would bring under its ambits all of the foremost GHG emitters and the process in turn would pave way for require a shorter ratification procedure. The developing countries, meanwhile, were rooting for two separate tracks for negotiations and even talked about the possibility of

two independent agreements. The developed countries wanted discussions on the second commitment period of the Kyoto Protocol, because completely doing away with the Kyoto Protocol would leave the world with even more difficult choice of ratification, which may stretch over many long years.

The international community respects the UNFCCC principle of 'common but differentiated responsibilities' (CBDR) but contest with each other over what does the term 'common' mean in the CBDR principle. While many developed countries have been sincerely acknowledging their role in the damage caused to the environment, but a majority of the developed world would like every country to take some necessary action to combat climate change. It is common knowledge that the industrialization which happened in the developed western nations in the earlier centuries has been the most important source of GHG emissions in the environment, it cannot be ruled out that the current levels of GHG emissions from the major developing countries like China, Brazil, India account for manifold increase in the emissions in the 21st century. The industrialized countries vouch for the nationally determined targets approach as the best way to determine the emission reduction targets, this approach is called the 'bottom-up' approach, whereas, the developing nations have been pushing for a 'top-down' approach which focuses on determining the emission targets which make sure that the average global temperatures do not escalate more than either 1.5 degrees or 2 degrees and post that deciding on each country's individual share.

The countries which are still growing economically ask for financial help to from the economically stronger counterparts to better adapt to the challenges posed by climate change and an ever changing and uncertain environment. The countries have been opposed on the on various finance related issues, primarily on starting place of the funding. Here, the developing countries favor the public funding over private funding. The developed countries argue in favor of private funding and market mechanisms for funding. Then there is an ongoing disagreement on whether the actions that the developing countries are required to undertake take place before the funding or the funding comes after the developed countries develop their policies.

On the question of technology transfers, though there was a general agreement that transfer of clean, green and renewable technologies should be encouraged, the developing countries asked for patent pooling, compulsory licensing and even multiparty technology fund, the developed countries, and especially US were not in favor of the concept of patent pooling. The industrialized nations did not agree on the technology funds and stood firm for the current Intellectual Property Rights regime.

Any targeted event that is supposed to garner enormous amounts of highlight, case in point being the Copenhagen Conference, 2009, is preceded by at least a few years and rounds of negotiations to be able to reach the decided aims at the main event. Conferences and talks regarding what would constitute the Copenhagen agreement too started well before 2009. The major event to be emphasized on here is the Conference of parties that took place in Bali, Indonesia in December 2007. The COP 13, held at Bali gave the negotiators the 'Bali Action Plan'. The international community was well aware of the fact that the first reporting period of the much coveted Kyoto Protocol was to end in the year 2012, the world got together to work towards reaching a settlement that would add to and extend the Kyoto Protocol and to discuss how to bring back US within the UNFCCC parapet on climate negotiations and this is what led to the Bali Road Map in 2007. The Bali road Map is that road map which defines the agenda for future discussions and the legal go-ahead to the UN climate change negotiations.

The Bali Action Plan lays down a two-track method of negotiations. The first of the methods is called the 'Kyoto-track' and works towards consulting and bargaining about the emission reduction targets of the developed industrialized countries under the aegis of the Kyoto Protocol. This track came into existence in the year 2005 and is run under the Ad Hoc Working Group on Further Commitments for Annex 1 Parties under the Kyoto Protocol (AWG-KP). The other track has been termed the "Convention Track", looks at the long-term emission reduction targets for all countries including the developing countries. It started its work in the year 2007 and works as the Ad Hoc Working Group on Long-Term Cooperative Action (AWG-LCA).

In the Bali Action plan the mitigation action covered the 'Nationally appropriate mitigation commitments', which were regarding procedures by the developed countries;

the 'Nationally appropriate mitigation actions' (NAMAs) taken by the developing countries. The countries were urged to work towards the furthering of transfer of renewable and clean technology from the developed to the developing nations. The Bali Action holds importance, as it brought the US along with other developed and developing nations to consider discussing a post-Kyoto agreement which has measures which are verifiable and reportable.

Developed countries, especially the US, prefer economics over environment. This is most evident in the US proposal of pledge and review system. The US does not agree to top-down approach any new agreement on climate change. Todd Stern (22 October 2013), the chief climate change negotiator from the US side puts it rather plainly that "rather than negotiated targets and timetables, they support a structure of nationally determined mitigation commitments, which allow countries to self-differentiate by determining the right kind and level of commitment, consistent with their own circumstances and capabilities." The approach advanced by the US pushed for the individual countries to pledge to take actions. What this works in favor is that the level of adherence should be domestically examined and not by the international community. The US contends 'a bottom-up approach is the most practical solution because a top-down approach may not be acceptable to major polluting developing states or indeed to US' (Stern, 2010).

The issues plaguing the climate change community were- financing and funding; the 2 degree temperature cap; legally binding emissions and the US' commitment to Copenhagen, whether US would re-engage and regain its lost leadership on climate change; technology transfers and what the Kyoto framers did not talk about-the dispute settlement mechanism. What bothered the US most was the term legally binding agreement. The US, along with many other developed countries was outright against any legally binding agreement, this could have been so, for two reasons: one, that any legally binding agreement would not see the light of day in the senate; and two, even though the US is a well industrialized nation, emission cap and legally binding agreement would expose US to international scrutiny. Inside the United States of America, there was a widespread belief that any such action which limits the carbon emission, which is not voluntary in nature, would adversely affect the American households and outsource the

American jobs to other nations, which would be harmful for the American economy. At the front of this opposition were the Republicans, who were against any legally binding agreement and did not have faith in climate science.

The Republicans were especially forceful when the so called 'climategate' scandal happened. It was in the November of the year 2009 that the news broke out that somewhere around 1000 emails exchanged between scientists from the University of East Anglia, were hacked and made public. What these hacked emails showed was that the scientists had manipulated the data concerning climate change even to the extent of completely put too high a price on the human hand behind the warm temperatures and climate change. The Republicans have been seen to make a case against global warming using these emails on the senate floor in a bid to derail any climate change legislation brought forward by the Obama administration. They even criticized the IPCC and in the same line of reasoning argued that the people who were depending upon the science behind climate change must open their eyes to the reality that the science behind climate change is flawed, untrustworthy and unreliable. Even though the Democrats tried to provide the picture of the disastrous affects that any change in the climate would lead to, not only for the US but the entire world, but the climate change skeptics effectively blocked the bills and legislations the administration tried to bring to the senate floor.

The climate for an effective US commitment towards climate change looked cloudy, with the domestic politics taking precedence over international responsibility and the responsibility towards the future generations. Even after all the drama over the climategate, President Obama went to the conference, in an effort to claim back the climate change leadership the US once had. The US too had its agenda set for the conference. The US, along with the other developed countries aimed at not submitting to any demands made towards legally binding emission reductions, the other being financial help. The US favored the climate change fund for the help of the developing countries, but there was a condition attached with it. Uncertainty, as has been rightly argued by Keohane and Victor, when states try to work towards cooperation on such a big level, involving a massive number of actors, they may be exceptionally cynical and uncertain about the gains that they may gain and their exposure to risks from regulation (Keohane

and Victor 2011:9). What the US wanted was to be sure that the funds were used in the right direction and that developing countries be subject to some form of international regulation.

Regulation was turning a wound for the developed countries as well, for the reason that since they wanted the developing countries to follow some regulation, the developing countries too wanted the same for the developed world-regulation, checks, which was taken as an infringement upon sovereignty. And the developed world, especially for US, its sovereignty is sacred. Michael A. Levi throws light on what the US and the other countries wanted. Levi is of the view that within the US, numerous legislators wanted conclusive near-term emission caps from the other biggest polluters like India and China, but these nations would not agree to any such thing for at least a decade. Whereas, the Indian and the Chinese negotiating parties had been asking the developed countries to responsibly commit to lower their GHG emissions by over 40% from 1990 levels by 2020, but, as Levi rightly points out none of the world's developed nations could even come close to meeting this goal (Levi 2009: 92-93). Harris (2013:71) contends that, "pressure to implement strong regulations to reduce GHG emissions is not high in Washington, due to concern among policy makers and lawmakers about US international competitiveness, Americans' addiction to cars and inexpensive gasoline and limited concern about climate change."

China, acting as a leader of the developing world, along with other developing countries had asked the industrialized, rich nations to pledge almost 1% of their combined GDP, which would mean $300 billion per year to the climate fund, which would help the less fortunate countries of the world, the countries facing the threat of submersion, to reduce their GHG emissions and adapt to climate change (Levi 2009:93). It is quite apparent that the developed countries would not have been interested in giving this huge an amount to their economic rivals. The other important point that needs attention is that since developing countries like India, Indonesia, to name just a few, are not that economically and technologically ahead, they may face the problem of monitoring their whole economy emissions, since they lack the ability to vigorously monitor such levels of emissions. The problem at hand would be, even if they did meet their agreed upon

emission cuts, would there be a way of verifying it, considering their situation at hand. What should also be added here is the truth that since the world leaders do not want a legally binding deal, there would actually be no substantive way to hold responsible those countries which do not live up to their agreed emission reductions. A politically binding deal can only go to the extents of naming and shaming the defaulters, but a legally binding one could empower the nations to even impose sanctions on the defaulters. All that this means is the defaulters will go free easily.

The world was waiting for US leadership. The world was aware that for any effective climate change treaty or measure, the US would first to have make laws on the domestic level and make climate change a priority in its bilateral meetings with other nations, just like trade becomes an integral part of any deal commemorated on the international or bilateral level, so would be expected of climate change. Harris (2002:34) has shown that "the world's governments and other important actors cannot deal effectively with environmental changes if the United States does not play an active role. The US must step up by agreeing to emissions limitations and then combine forces with the rest of the industrialized world in convincing developing nations on emission controls."

It is common knowledge that the US has always been rooting for no legally binding emission reductions target and treaty and that was one of the main reasons why US could not bring it to get the Kyoto Protocol ratified. US has over the years in climate change negotiations maintained that it would agree to any legally binding treaty or agreement if that document also binds China and India to the legally binding framework too, though we can never be sure if the US would in actuality do so. The US has constantly rallied behind domestic action and flexibility instead of multilateral arrangements and agreements.

The domestic politics unfolding inside the boundaries of the US has always played a decisive part in any US policy making task. The multitude of actors like the Congress, the public opinion, political parties, business groups, and non-governmental organizations, all pulled the US policymaking in different directions. This is what has been a major reason why President Obama has often been constrained to effectively engage with the

international community on climate change. Domestic players play an imminent and often deciding role in the US position in climate change negotiations.

One of the foremost concerns at any climate change conference or meeting is the US-China rift. Both these world leaders are leaders even in the GHG emissions. In an effort to advance their own specific economic interests, their economic growth, their jobs, they forget all about the consequences their uncompromising actions cause to the world. There is a widely prevalent view among the American critics of US climate policy that no country has emitted as much GHGs as the US itself, but its persistent efforts to bring China and India to commit to taking up legally binding emission reductions just like the industrialized countries, at this juncture of their economic growth may be a calculated shot to emasculate their economic growth. The general mood was that these two emission giants should playing games at the climate change negotiations, because without the cooperation between US and China, the world's two largest emitters, any plan to tackle the difficult issues of climate change.

Harris (2013:81) notes that "the deadlock in climate change negotiations is largely a consequence of the US and Chinese obsession with the Westphalian norms. It leads them to focus on their individual perceived national interests above the interests of the people everywhere and to fixate on their own legal sovereignty to the exclusion of the welfare of the natural environment." China maintains that US is liable for not fulfilling its commitments towards the developing countries; while the US insists that since china has become the biggest GHG emitter, any agreement on emission reductions would be worthless without dynamic chipping in by China.

When we talk about the developed and the developing world, we can clearly see the north-south divide in terms of equity. What does equity mean in terms of climate change? Put simply, it means, the quality of being fair. The central question is focused around whether all countries should contribute to the climate change related GHG emission reductions burden. The approach that should be adopted should be that of burden sharing, all chief and key emitters should contribute towards emission reductions. What this means is that countries whether they have a historical responsibility towards increased emissions as well as those that do not have a historical responsibility, but suffer due to

the changing climate, must share the responsibility and unite towards reducing GHG emissions.

If one looks at the history of all failed climate change talks, it becomes quite apparent that inequity and a lack of trust between the global north and the global south could be one of the key explanations for the evident failures. Looking at the level of consequences the world would face due to climate change, it is a known fact that the global south would face the brunt of climate change much more than the global north. Issues like lack of early warning systems, the visible lack of knowledge about the effects of climate change the populations, the clear deficit of funds and finances to counter the outcomes of climate change, poverty, less advanced technological systems, the issue of growth and development have all formed the language and understanding of what equity means in climate change for the south. Equity could also mean an equal sharing of burdens and benefits. Equity, defined in terms of Common but Differentiated Responsibility (CBDR) principle is enshrined in the Earth Summit (principle 7), 1992, which goes like:

'States shall cooperate in the spirit of global partnership to conserve, protect and restore the health and integrity of earth's ecosystem. In view of the different contributions to global environment degradation, states have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.' (UNFCCC 1992, Principle 7)

Three things come out from the CBDR principle- one, 'the largest share of historical and current global emissions of GHG originated in the developed countries; two, per capita emissions in developing countries are still relatively low; three, the share of global emissions originating in developing countries will grow to meet their social and development needs' (Lucia 2007). Major developing countries contend that developing countries like India and China cannot be kept out of the emission lowering responsibilities, as in the near future, their emissions levels may even exceed the levels of developed countries and this logic seems pertinent to the Chinese case, as China has left US behind and topped the global GHG emission charts, while countries like India and

Brazil are not far behind in the line. As a result, the developed countries have been persistently asking to not to keep out these countries out of the emission reduction boundaries, for that will keep alive inequality in the climate change regime. Bradley C Parks and J. Timmons Roberts note that:

Inequality in climate change dampens cooperative efforts by reinforcing 'structuralist' worldviews and causal beliefs, polarizing policy preferences, promoting particularistic notions of fairness, generating divergent and unstable expectations about future behavior, eroding conditions of mutual trust and creating incentives for zero-sum and negative-sum behavior. In effect, inequality undermines the establishment of mutually acceptable 'rules of the game' which could mitigate these obstacles (Parks and Roberts 2008:621).

Thus we know what was happening before the Copenhagen Climate Change Conference and what the issues which needed were demanding attention. However, the most challenging concern for the rest of the world still was even if the countries of the world agree on an agreement and some level of emission reductions, would the US be able to get the deal ratified? Would it be able to fulfill its commitments and its duties towards preserving the environment?

3.2 THE COPENHAGEN CONFERENCE: WHEN AND HOW?

The Copenhagen Climate Change Conference, 7-18 December, 2009 was much talk and less work. The purpose of Copenhagen conference was, one, to agree upon the post-2012 targets for the Kyoto Protocol and also work towards a treaty that leaves no room for US exclusion plus impose upon the participant countries long term emission reduction targets. The conference started on a wrong note. Rumors were rife even before the conference that there was some sort of secret 'Danish Text' which might have been available to negotiators from some select countries. The rumors turned out to be true. It was only within two days of the conference that, the British newspaper The Guardian broke out the news that there indeed was a secret Danish Text, which the Danish president had worked upon with US and UK and copies of which were later distributed to a select number of countries.

The text was a backup in case the climate talks did not yield any results. The text, is called, was an effort to undermine the UN's negotiating role, would have handed more power to the already rich countries and forsake the Kyoto Protocol. According to The Guardian report, the text would have renounced the Kyoto principle that the developed countries have a responsibility due to their historical role in the increased GHG emissions, that they should take definite and binging commitments to curb emissions, although, the developing countries were exempt from taking actions. How very damaging this draft could have been, if adopted, can be gauged from the fact it further divided the developing countries and created a totally new category of the most susceptible developing countries.

All of this high drama only made the case of the developing countries even more convincing. The developing world cried foul. This was seen as an attempt by the developed countries to impose their desires on the developing countries. The climate change conference witnessed a climate of mistrust. The developing countries were outraged, claiming that the text was unequal to the core, was to sideline the UNFCCC process and negotiations and an endeavor to ditch the Kyoto Protocol. Countries like India and China were joined by the likes of Sudan and South American nations joined hands criticizing the leak issue and stated that the text was the work of developed countries, keeping secret the whole agreement, which was entirely based on their presumptions and desires, without consulting the developing countries. They argued that the Danish Text was prepared without their consent and knowledge.

The Copenhagen climate conference was in jeopardy since the beginning itself. When we see a large number of countries, with their own stands and interests coming to such an event, distractions and disagreements are bound to happen. It is difficult to give weightage to the differing aspirations of such a large number of countries and accumulating them all to reach a common ground. The only thing which the participant negotiators from various countries agreed to was that the temperature increases should be lower than 2 degrees for the human kind to survive. There was only the recognition among the states that climate change was posing dangers which were causing threats to various life forms on earth, be it in the form of declining agriculture, lower rainfall in

most of the areas of the world, forest fires, decline in the marine life, water salinity, increase in the temperatures of ocean water, or to the survival of humans and animals. Beyond that, negotiating on anything proved to be a colossal task, coming to agree on something was way beyond that.

The conference saw countries like Tuvalu and organizations such as AOSIS, at the forefront to save the planet. Into the first week of the conference, Tuvalu was seen rallying around the cause for deliberations on one legally binding agreement for every country. What the other developing countries along with China wanted was a two-track process which would make separate arrangements for additional binding GHG emission reduction commitments for the developed countries under the umbrella of the Kyoto Protocol and the other track that would work for non-binding GHG reduction targets for the developing countries. The US was seen opposing both the stances as both the propositions would have meant that the US require participation in an agreement based on the Kyoto Protocol. The reason behind such an attitude from these nations' lies in the fact that these smaller nations are the very countries which are the most affected by the change in climate and would be in grave danger if the earth's temperatures continue rising at the levels they are now. Many of these countries even face the threat of submersion, being wiped away from the map of the world, due to even a slight increase in the levels of oceans and the seas. For them, the threat is closer to home than any of the other countries which were present at the Copenhagen climate change conference. It was not very surprising to see the delegates from Africa putting up a brave front. The world is well aware of the condition of the African and Sub-Saharan countries, the intensity of their humanitarian crises, their low levels of development, and their parched lands.

So, when Tuvalu proposed stricter measures on emission reductions, the developing world group was divided. It was between those who had firm belief in legally binding emission reductions and those who do not believe in anything binding. Tuvalu came up with a protocol, which would have paved the way for binding stricter emission cuts, which may have to be taken up more by the developing countries rather than the rich countries. The protocol was supported by countries like Trinidad and Tobago, but met

with opposition from nations like China and Saudi Arabia. Since the protocol met with fierce opposition from the developing world itself, it was rejected.

3.3 THE COPENHAGEN ACCORD:

The Accord which emerged from the Copenhagen conference was drafted by a select number of countries. The Accord was majorly drafted by the US, India, Brazil, China and South Africa. How the Accord came into being was itself quite dramatic. After months and years of negotiations and hard work to make the conference a success, to reach an agreement, no country representative wanted to go empty handed, everybody wanted a part of the success, but for success, they needed an agreement, a document to document what they had accomplished at Copenhagen. So, when it appeared that the climate change talks were going towards a stalemate, the leaders from these five countries took it upon themselves to do formulate an agreement for the world.

Marsden (2011:59) writes that one of the negotiators present at the conference recalled that "it was clear he (Obama) wanted to get the thing done. Obama strove to bring the parties to an agreement. He tried real hard. You saw him in the corners… trying to make deals… There were certain… difficult areas, which had to be solved bilaterally with parties that were interested in those particular issues. President Obama was definitely involved in some of the key ones, like the forest issue, like the issue… around the nature of the commitment of developed countries, how to measure action from developing countries, how to verify it." From this paragraph we get to know at least the sincerity with which President Obama took part in the negotiations and to which extent he wanted the world to come to an agreement.

The other countries present at the conference saw it as a way to impose their will on others. Delegates from countries like Bolivia, Cuba were vociferously in opposing the way that the Accord was made, going to the extent of calling it not transparent and undemocratic, as opposed to the UNFCCC processes which call for consensus. They even pointed out that this is not consensus looks like, consensus means that there is no

opposition to what is being proposed and everybody agrees to it. The countries which were left out of the Accord formulation process, called it an unequal and unfair process.

What formed the Copenhagen Accord? What were its contents? The Copenhagen Accord which came out of the negotiating process was 'taken note of' and was not 'adopted' and it wasn't adopted collectively. The Accord recognized that climate change is one of the ominous challenges faced by humankind. There was a consensus that attempts be made to keep the temperature escalation below 2 degrees. The developed countries did not agree to any legally-binding reductions. There was no defined specific timeline for global GHG emissions to peak. The developed countries agreed to jointly muster $100 billion year by the year 2020 for addressing the needs of the developing countries, which gained applause from some who viewed it as a step forward in the negotiating process. There were established wide terms and conditions for the reporting and verification of countries' actions. The Accord called for establishing the Copenhagen Climate Fund and a new technology mechanism.

The Accord called both the developing and the developed countries to submit their emission reduction targets, although, it said nothing about what those precise targets should be. The Accord also took note of the fact that Reducing Emissions from Deforestation and Degradation (REDD Plus) and the mechanisms for boosting the forest coverage were indispensible for the reduction of climate change. For the short-term, it was agreed upon that $30 billion would be awarded for the 2010-2012 time frame. The Accord calls for "an agreement that developing countries will report to the UNFCCC every two years on actions they have taken and intend to take to mitigate climate change. These reports will be subject to international consultations under guidelines to be established by the UNFCCC. The Accord calls for initial submissions of intended steps to mitigate climate change to be submitted to the UNFCCC by January 31, 2010" (Congressional Report 111). The Accord states that "In order to enhance action on development and transfer of technology we decide to establish a Technology mechanism to accelerate technology development and transfer in support of action on adaptation and mitigation that will be guided by a country-driven approach and be based on national circumstances and priorities" (UNFCCC 2009).

3.4 REACTIONS TO THE ACCORD AND ANALYSIS:

After completing the work on the draft, when President Obama came out of the meeting room he proclaimed it a "meaningful and unprecedented breakthrough." President Obama acknowledged that even though this was a breakthrough, much more needed to be done towards reducing the effects of climate change. Many leaders of the world even called it a 'vital first step'. The Chinese pronounced: "the meeting had a positive result, everyone should be happy'. On a similar jubilant note the Indians stated: "We can be satisfied that we were able to get our way… India came out quite well in Copenhagen". The British Prime Minister termed it a 'start'.

The manner in which the Accord was reached at, with all the confusion and chaos, it is bound to muster criticism and the Copenhagen accord gathered criticism not only the way the events unfurled, but to a larger extent, the contents within the Accord. The most razor-sharp comment came from Lumumba di-Aping: "This is asking Africa to sign a suicide pact, an incineration pact, in order to maintain the economic dependence of a few countries. It [Copenhagen Accord] is a solution based on the same values that funneled six million people in Europe in furnaces". (Marsden 2011:73). Lumumba even made a case as the leader of the G-77 countries that the Accord 'locks countries into a cycle of poverty forever'. Remarks from Lumumba gained wide criticism from the developed western countries. Brazil called the accord a 'disappointment'.

The non-governmental organizations like the Greenpeace and Friends of the Earth were left unimpressed with the outcome. These groups too were critical of the non-specific timelines or emission reduction targets for keeping the rising temperatures below the 2 degree temperature cap. Carter, Clegg and Wahlin (2011:18), talking about when science met realpolitik, write that: "Viewed in terms of the distributional politics of international relations (in terms of knowledge of climate change's costs and benefits apportioned to different nations) science, that most legitimate and rational of institutional logics, was constituted as an instrument of the advantaged against the disadvantaged, the wealthy nations against the poor, and the powerful against the weak".

The Accord mentions the $100 billion per year by 2020, but fails to clear the air on where the wherewithal to actually fulfill the $100 billion will come from. The Accord remains silent on the institutional structure for the delivery of such funds. David hunter (2010:11) argues that the World Bank was the favorite choice for the US for the delivery of this amount, arguing that the bank is perhaps the most capable of handling multilateral finances, but Hunter observes that the biggest and perhaps the most sensible logic behind the whole favoring of the World Bank is that the US enjoys unparalleled executive power, the decision making power, which comes mainly due to the massive seventeen percent voting shares in the World Bank. The science behind climate change appeared to be at the losing end, since the Accord calls for voluntary pledges and to reduce the greenhouse gas emissions, which is quite unrelated to what targets science has suggested and reduced the gravity of scientific analysis of what needs to be done.

The way the Accord was reached at, also symbolizes the weakening of the U.N. process, where decisions are taken in consensus with all parties, which did not reflect in the Copenhagen Accord. What it truly showed was that a few important players can actually take things in their hands and forget all about other nations. Here, it also needs a mention that to a certain extent, it worked in favor of the Conference, since deep into two weeks of the Conference, no consensus and no commitment was reached at by the negotiators from around the world, had an Accord not been reached, it would have seriously tainted the image of the UN process and would have reflected poorly on the participant nations' sincerity regarding climate change.

The world was looking at the Copenhagen Conference on Climate Change, 2009, anticipating that this was the one true opportunity for the United States of America; it's newly elected Democrat president, a country with one of the largest historical baggage related to green house gas emissions, a country with enormous economic muscle to return to its leadership in climate change negotiations and lead the way forward in financing, mitigation and the adaptation process. What the world did not understand was the extent to which limitations are put on what the President of a country like America can do. It requires that we acknowledge the naked truth that an American president would only go as far on climate change commitments on an international platform, till it does not

provide other challenging nations with more leeway and hurt its economic weight, because domestically, anything that comes close to impairing the economics of the nation, will not see the sun.

Christoff (2010:650) notes that any administration in the US is held captive by its institutions. Christoff narrates the often told tale of the majority of 67 votes, without which the administrations' hands are tied on any ratification process and the Kyoto Protocol or any agreement related to the matter. He points out that the Obama administration will "not challenge the still popular Bush-era doctrine (embodied in the 1997 Byrd-Hagel resolution) of rejecting the Protocol as a threat to the economic competitiveness and jobs." For any agreement to see the light of the day, would require the other major polluters, namely India and China, to take up binding emissions reduction procedures.

Evident is the position which the US endorsed, that is, no legally binding emission targets and restraints on financing, or financing with strings attached. The US may not have entirely got what it wanted from the Accord, but it did stand to gain significantly. It was noticeable that the US negotiators were firm on their stand- not to join the Kyoto Protocol (1997), even after repeated calls from various countries to join the Protocol, the US negotiators stood firm on their stand. According to the New York Times (21 December 2009), "United States also overcame efforts by India and China to ban the use of border tariffs on their export of energy-intensive goods—a hammer that about a dozen senators see as critical to having before they would even consider voting for climate legislation." Throughout the meetings preceding the conference and during the conference, US' attention was stuck on China. US negotiators were firm that agreement can only be reached if China commits to lower its emissions and submits to some form of international verification process and the US would only commit to legally anything legally binding if China and India agree to it. The end result was in favor of all parties-no binding emission targets, a win-win for all, even for the US, as it would not have to be bound by binding emissions reduction, which the domestic politics was already against in the US.

The emission targets had to be voluntary, as proposed by the US and the Accord provided the same for the countries. Each country only had to pledge internationally their voluntary emission targets. The US played by its own rules. When secretary of state Hillary Clinton announced that US would provide with another ten billion dollars for financing, and contribute to the $100 billion funds, but only on the condition that the funds be provided for the countries who do pledge to international monitoring. China and India later consented to a few reporting requirements.

At the end of the conference, the way Copenhagen Accord was struck, with President Obama taking the lead in the process that led to the Accord, we can say that even though America was not keen on extending the timeline for Kyoto Protocol, America did appear to be regaining its position in the climate change negotiations. Even though the countries were not enthusiastic about the accord, yet they jumped on the wagon, because everyone knows what happened at Kyoto and nobody wanted the US to keep out of any further agreements. The 'pledge and review' system which was a favored position by the US echoed in the Accord where, those nations which become party to the Accord were expected to make some mitigation pledges. Overall, it was a face-saving deal for the world and most importantly for the US.

The Copenhagen conference apparently displayed the constraints which domestic politics puts on the US negotiating process. As compared to the big players or the major emitters, the smaller states were more open to mitigation and adaptation and some countries even suggested a 1.5 degree cap on the temperature. The US, for a long time has been unable to gather support for a much more convincing target at home and even internationally. Generally, it has been seen, that the media and the public opinion on climate change remains unaffected on issues like climate change, until there strikes a disaster like hurricane Sandy or Katrina. The people are more concerned about the economics and the public opinion in the Copenhagen conference was also affected by the economic recession, which caught the eye of the public in US more than the climate. That is the thing with climate change, since its effects are not visible instantaneously and are spread over a fairly long period of time, the issue has been seen to lose its importance and it's of urgency is lost upon the people.

The Accord was non-binding in nature, which, for the US meant that the administration would not have to face a heated senate at home. It was already presumed that Obama went to Copenhagen with the reality to come back home only with an agreement that could be agreeable with the Senate. What Obama achieved when he brokered the accord in Copenhagen was to a certain extent, a victory for the US and for himself, the outcome only added to his domestic climate change schema and would have helped in any future climate change legislation at home. The accord meant for US that the biggest emitters mainly China and India were ready to work in collaboration internationally to counter the challenges posed by the dangers of climate change. American dominance may be declining in various sectors, but even today, all major countries do recognize that the American influence in climate change still remains gigantic; they acknowledge that for any deal or agreement on climate to be a success needs vigorous participation from the US. Wikileaks brought out in the public what was US doing for the countries to join the Copenhagen Accord.

The role that the Bush administration played on climate change issue, created a sense that the US had lost its leadership on the climate platform and when this happened, it created a vacuum, to fill this vacuum, it looked like China was fast emerging a leader on the international front on climate change. US did not want China to play a leading role in Copenhagen and even downplayed its role on several occasions. It was reported that the US threatened to cut down aides given to countries like Ethiopia, if they failed to come on board the Copenhagen Accord. The Guardian reported (30 January, 2014) that Edward Snowden revealed documents according to which, the US, National Security Agency 'spied' on negotiators from other countries to give the US negotiators prior information about other high-profilers. What was also revealed was that the US already knew about the host country's 'Danish Text'. The negotiators even gained information on the Chinese efforts to align its negotiating stance with India in the climate conference.

CHAPTER 4

THE PARIS CLIMATE CHANGE CONFERENCE (COP 21) 2015

After the Copenhagen fiasco, all eyes were set on Paris. The Paris Climate Change Conference was the twenty first in the series of UNFCCC Conference of Parties (COP), held from 30 November to 12 December 2015. Paris was perhaps the last leaf of hope for the world to open their eyes to the glaring realities of climate change and leave their self-interests behind for the planet and for the future generations. The world had changed since the Copenhagen conference (2009), but the issues and agendas were quite similar to the Copenhagen Conference. The world was hopeful that this time the leaders of the world would not disappoint them by bringing home an agreement which was weak to its very core. The Paris conference held more importance since the last time a major event like this (Copenhagen Conference 2009) which happened, which was called the 'last ray of hope' for the environment did not produce the strong results it was expected to produce, the result was only a political agreement which lacked the legally binding clause to see firm action on climate change. So, it was obvious that the world was both hopeful and skeptical about what would result from Paris. Before going into the details of the conference it is important to see whether there exists a linkage between the US national security and climate change.

4.1 CLIMATE CHANGE AND US NATIONAL SECURITY:

During the cold war years, security came to acquire a narrower meaning, security only meant building up the capabilities militarily, and since there was a clear-cut image of the threat at hand- the Soviet Union, security came to mean security from a well-defined source of threat. The other ways of threats to humanity were ignored knowingly, and when the biggest threat to human lives came back to haunt the people who had overlooked the environmental 'insecurity', did humankind come to realize that the problem had grown bigger at an unprecedented rate.

Lester Brown (1977) had summed it up perfectly when he said, "Threats to the security may now arise less from the relationship of nation to nation and more from the relationship of man to nature. Dwindling reserves of oil and deterioration of the Earth's biological systems now threaten the security of nations everywhere". It is clear that environmental threats know no boundaries, they cannot be trapped in the debate over sovereignty of the state and their impacts spread across several countries. Environmental dangers often lead directly to conflicts and more so, when the world has been consuming natural resources like water and trees blindly and often more when compared to other resources. Whoever said that the next world war would be over the dwindling resources of water, might in fact is proven correct in the near future.

The end of cold war saw a shift in thinking and writing about security just on military terms. Now the government and the intellectuals could talk about expanding the scope of the term security to include environmental security and human security. Scientists offered their expertise on the subject and made the world aware the possible impacts of change in the nature of which could be on the society, economy and the polity. When the director of NASA's Goddard Institute of Space Studies, James Hansen testified before the US Senate that, "It is time to stop waffling so much and say that the evidence is pretty strong", and said: "Global warming… is already happening" (New York Time June 24 1988), it altered the thinking of those present in the Senate and brought to light the harsh reality that everyone had been conveniently ignoring.

Richard Ullman, in his work, 'Redefining Security' (1983), made a case for the redefinition of the threats to national security and they could be- 'disturbances and disruptions ranging from external wars to internal rebellions, from blockades and boycotts to raw material shortages and devastating natural disasters such as decimating epidemics, catastrophic floods, or massive and pervasive droughts' (1983:133). Norman Meyers was of the view that "national security is no longer about fighting forces and weaponry alone. It relates increasingly to watersheds, croplands, forests, genetic resources, climate and other factors rarely considered by military experts and political leaders, but that taken together deserve to be viewed as equally crucial to nation's security as military prowess" (1993:21).

The debate over security and national security, to include climate change and environment grew drastically and was widely debated. Jessica Tuchman Mathews (1989) argues, "Global developments now suggest the need for another analogous, broad definition of national security to include resource, environmental and demographic issues." Scholars have pointed out that for a long time, environmental damages have been termed collateral damage, which had been Okayed by the governments around the world, and this dent resulted in a long-time suffering of humankind. One of the major issues that already are emerging is that of environmental refugees. These would be the people most affected by the rising temperatures that would render most lands infertile, as some parts of the world would receive no rains and the lands would be parched.

The National Intelligence Committee's assessment states that, "We judge global climate change will have wide-ranging implications for US national security interests over the next 20 years… The United States depends on smooth-functioning international system ensuring the flow of trade and market access to critical raw materials such as oil and gas, and security for its allies and partners. Climate change and climate change policies could affect all of these- domestic stability in a number of key states, the opening of new sea lanes and access to raw materials, and the global economy more broadly-with significant geopolitical consequences" (National Intelligence Committee 2008). Within the US itself there would be migration internally and also from neighboring countries like Mexico. It would be a threat to the security of US when extreme weather conditions would leave some military installations and weapons obsolete. Security would be at risk when scarcity of natural resources would lead to resource wars, which may have a spill-over effect. There would ultimately be no option left for the US but to be dragged into such conflicts.

According to the Department of Defense's (DOD) Climate Change Adaptation Roadmap, 2014, "A changing climate will have real impacts on our military and the way it executes its missions. The military could be called upon more often to support civil authorities, and provide humanitarian assistance and disaster relief in the face of more frequent and more intense natural disasters. Our coastal installations are vulnerable to rising sea levels and increased flooding, while droughts, wildfires, and more extreme temperatures could threaten many of our training activities. Our supply chains could be impacted, and we

will need to ensure our critical equipment works under more extreme weather conditions. Weather has always affected military operations, and as climate changes, the way we execute operations may be altered or constrained… Climate change will affect the department of Defense's ability to defend the Nation and poses immediate risks to US national security."

This roadmap clearly identifies the criticality of the impacts of climate change on the mission undertaken by the DOD and gives details about the efforts of DOD to combat such threat. Climate change would pose threats not only to the stability of military installations but also affect the weapons which would have to be designed in the near future, if the condition of rising temperatures remains the same. The technology of weapons production would have to be such that it doesn't fail the army of the US in extreme weather conditions.

4.2 THE CHANGE SINCE COPENHAGEN (2009):

The Copenhagen Conference on climate change was a disappointment for some and a way ahead for the others. Over the years, between the two major conferences on climate change many things happened and things have changed making it more than evident that the threat of climate change is real. The swelling temperatures, the increased numbers of wildfires, the ever so evident rise in the sea-levels, reduced precipitation in various parts of the world to shorter cold days all over the world have made it possible to look ahead instead of being stuck dwelling in the failures from the past.

The Science

The science behind climate change and global warming is more confident of the need to reduce the emissions from what they are presently. The emissions have seen a growth and intensification in the years from the Copenhagen climate change conference. There is an increased understanding among the scientific community that GHG emission reduction efforts too should see an intensification if the world has to save something for the future

generations. The science on climate change is firm that the anthropogenic (human-induced) greenhouse gas emissions have mounted in these years.

The IPCC report, 2013, postulates that one of the major drivers of the growth in the concentrations of human-induced CO2 have been the ever increasing population of the world, lifestyle and the amplified economic growth measured in the world. The report states that, "anthropogenic GHG emissions are mainly driven by population size, economic activity, lifestyle, energy use, land use patterns, technology and climate change policy" (IPCC 2013:8). The report elaborates that it is because of the anthropogenic activities that the arctic ice-sheets have been melting at an unprecedented rate which would lead to a rise in the surface sea-levels over the years and in the future. The report point out it is 'very likely' that the human hand in the soaring of these harmful gases has led to modifications in the occurrence and intensity of the temperatures recorded on a daily basis throughout the world. The report draws attention to the risks caused by the mounting temperatures on the vulnerable species of animals and plants, the aquatic marine life would suffer in the succeeding years with paucity of oxygen in the oceans and coral reefs around the world would be at high-risks (IPCC 2013). There would be prevalent ocean warming as oceans continue to absorb some of the heat produced from emissions. The IPCC report 2014 remarks that, "over the period 1910-2010, global mean sea level rose by 0.19 [0.17 to 0.21] m. The rate of sea level rise since the mid-19th century has been larger than the mean rate during the previous two millennia (*high confidence*)" (IPCC 2014: 42). The 2014 report notes that, "**Total annual anthropogenic GHG emissions have continued to increase over 1970 to 2010 with larger absolute increases between 2000 and 2010 (*high confidence*).** Despite a growing number ofclimate change mitigation policies, annual GHG emissions grew on average by 1.0 GtCO2-eq (2.2%) per year, from 2000 to 2010, compared to 0.4 GtCO2-eq (1.3%) per year, from 1970 to 2000. Total anthropogenic GHG emissions from 2000 to 2010 were the highest in human history and reached 49 (±4.5) GtCO2-eq/yr in 2010.The global economic crisis of 2007/2008 reduced emissions only temporarily" (IPCC 2014:45).

During the Copenhagen Conference (COP15) held in 2009, the IPCC had come out with report but it was during the duration of the conference that hackers had revealed that the

report had exaggerated the extent of climate change and the subsequent 'climate gate' scandal came to surface, but this time around, no such thing came out in public.

The Technology

Though countries have evolved their ways of responding to climate change on various levels, yet the most efficient has been the technological innovations brought to life by the efforts of many countries alone and through collaboration between two or more countries. Technology is one issue area that has seen manifold growth. Countries of the developed and the developing world both realize the importance that technology holds in determining their fate on climate change. Hence, countries world-over are rooting for renewable sources which are clean and green forms of energy. The world has witnessed reductions in prices over the years in the cost of these green sources of energy. The reduced rates of renewable sources of energy like solar and wind, which were earlier more taxing for the economies, have proved a boon for the cause of climate change, it is because of these reduction in costs of implements used in these renewable forms of energy that many weaker and less developed nations can have undertaken these projects at a massive scale.

The Insights, Opinions and Population:

The stand United States took on the Kyoto Protocol, first by not submitting the protocol for Senate ratification and then by ultimately calling the protocol dead for the United States put a dent on the American image worldwide, leading to the impression that the US could not be trusted to stand true to its commitments in climate change negotiations. All of this did not work out well for Obama. The negotiating parties were deeply cynical about Obama. Obama in the year 2009 went to the Copenhagen conference at an early stage of his first term of presidency. Speculation was rife that at home, Senator Kerry's (Mass. Demo.) bill on climate change would see the light of the day in Senate, while in the international arena, many viewed Obama with much suspicion and others with hope

that his stance on environment would prove beneficial for US and the international climate change efforts.

All this did not mean that everything would go fine for Obama at the conference. At Copenhagen, the President of United States was seen crashing meetings to which he was uninvited to being sent lower level officials to meeting by the Chinese Premier. The way the accord was struck, the countries which are most vulnerable to the impacts of climate change called an effort gone waste. Things have changed since Copenhagen for the president. After winning a decisive second term to White House, he had the power and the will to act on issues of climate change. In his State of the Union address he declared, "If Congress doesn't act, I will". Since then, the president has made various serious efforts to work on the subject matter of climate change and often taking the route which does not require locking horns with the Congress and mostly action through executive actions.

The trends post-Copenhagen which have amassed huge concern relate to swelling size of population of the world, the view that warming of the Earth's surface has 'paused' and the consistent use of coal in many areas of the world. The current population record is 7.4 billion, which makes it more people to feed and more people for energy consumption. Population increases the stress on the Earth's resources and it makes it difficult for the countries to balance well between population needs and their climate change commitments which in turn, make them put growth and economics on a higher pedestrian than climate change. This is also because the effects of climate change unfold over a longer duration of time and issues like hunger and poverty calls for urgent attention for many nations.

There was a widespread notion in recent years that the warming has actually slowed down or even 'paused'. Though the literature on the issue is still not adequate, but this is quite alarming as it would give an edge to climate change deniers and climate change skeptics. They would use it in the defense of their argument that climate is not changing as vociferously as climate change scientists and those who believe them, project to be. They could in fact point it out that these changes are not in part due to human activities but as a result of our planet's natural heating and cooling process. The scientific community is still holding firm to their confidence that temperatures are witnessing

escalation. The pause could be a resulting from the absorption of the heat by land and our vast ocean bodies.

On the question of coal there is a consensus that a large chunk of the world still continues to use the cheap coal-fired energy, which leaves the atmosphere with enormous quantities of GHGs. There is also an understanding that if new coal burning power plants continue to come into existence at this rate, it would aggravate the situation and achieving the goal of locking temperature increases at two degrees would be quite tough, if not impossible.

The Big Players Come Together

Claimed as perhaps the most important achievement for climate change negotiations, the world's first and second largest emitters of carbon dioxide (CO2) laid the groundwork for cooperation in such negotiations of huge importance. The United States and China have never been able to be on the same page on climate change issues and never did they agree with each other's policy stands on the matter. The US has always been firm that any climate change agreement that the world wants to see, must include major emitters China and India. The US maintains that though the industrialized nations of the world bear the major responsibility for environmental degradation, they are doing at their national levels, what is best for the environment, but considering that China has left behind the GHG emissions of US and become the most emission producing country, there can be no denying the fact that it is high time that China comes under the binding emission reductions under climate change agreements. This changed. The recent joint US-China statement (12 November 2014) provides a ground for cooperation in climate change negotiations. It has been hailed by many as a game changer. The statement recognizes that U.S. and China have an important role to play in climate change and these nations should work bilaterally and also work in the favor of a legally binding protocol based on common but differentiated responsibilities. The joint statement has been hailed as a major turning point in the history of climate change negotiations.

The US-China Joint Announcement on Climate Change set up vision for the Paris conference (September 2015). The leaders of both the countries were in unison that it is very much true that climate change is one of the biggest threats faced by humanity. Both

countries were in harmony over the reality that both the United States and China are two giants in the climate change arena who have a crucial role in dealing with the problem. The joint announcement marked a new history of climate diplomacy. Some of the essential points of the announcement are as follows:

1) It points out that both the countries would aim to work towards an agreement which would be based on the principle of 'common but differentiated responsibilities' keeping in mind the different national circumstances of the countries.
2) Both parties have lent their support to transparency efforts towards reporting and reviewing of countries' actions in an appropriate manner to enhance implementation.
3) Both U.S. and China point out that the Paris accord should incorporate stance on stronger adaptation policies, whereby countries can be promoted to take adaptation projects at both international and national levels.
4) U.S. and China that for mitigation actions and for building transparency on execution of policies and commitments, the developed countries had promised to pitch in hundred billion dollars per year by 2020, and this funding would comprise of multiple private, public, multiparty sources of funding.
5) China promised $3.1 billion as climate change aid for the developing nations.
6) Both the nations stressed on domestic policies for achieving targets outlined for a post-2020 world, with the US emphasizing on the 'Clean Power Plan' which would be supervised by the EPA. The plan aims to bring down emissions from America's power plant by 32% corresponding to the 2005 levels by the year 2030. The EPA aims to lower the levels of pollutants like sulphur by establishing a partnership among the state and federal governments. The plan is unique as it sets specific emission periphery and is encouraging on the whole by giving choice in how to work towards the same. The Significant New Alternatives Policy unveiled in July of 2015, outlines various procedures to mow down the hydro fluorocarbons (HFCs) used and emitted by the nation.
7) On the Chinese side, great advances have been made to curb emissions and China has labored through the years to gain efficiency in renewable sources of energy. China has proposed to erect a countrywide carbon trading system which would also include six cardinal industrial sectors such as power generation and chemicals. China has avowed

that it would work towards transformation in its electricity sector and strive for clean energy.

8) Both nations have emphasized the importance of cities in combating climate change. During the US-China Climate Leaders Summit, cities were cited as hubs were large scale actions can be undertaken to reduce GHG emissions. it was recognized that cities have an edge over countries as a whole as the policy measures that are proposed can be implemented with much ease and speed as compared to the country level targets and policies. Cities have a clear advantage as they can engage citizens effectively (White House 2015).

These attempts and achievements made by the two carbon giants unlocked the doors of cooperation among other countries as well. Other countries can learn to put aside their differences and work towards the common goal of achieving an agreement in Paris and protecting the environment from further damage. It was indeed a commendable effort towards the boosting the confidence of countries preparing for Paris.

4.3 PRE-PARIS NEGOTIATIONS' SCENARIO:

After witnessing the Copenhagen conference's climax, there was an understanding among the nations that what happened at Copenhagen should not be repeated again in any climate change negotiations. The goal of reaching an agreement in Paris went through various actions in between Conference of Parties (COP) meetings since the year 2011. Reaching an agreement on an issue like climate change, which impacts the lives of people, animals, plants and the oceans in a negative way, does not happen in a matter of few days. The process takes years of painstaking efforts to build a consensus on the issues involved. The same is what the world witnessed in the period between 2011 and 2015. The study would focus mainly on three major COP meetings- the Durban COP (2011), the Warsaw COP (2013) and the Lima COP (2014), which ensued before the main event at Paris.

(a) The Durban Conference of Parties (COP17) 2011 and the Durban Platform

The Durban Conference of Parties (COP 17) was held from 28 November to 11 December 2011. The COP 17 holds importance as it put the ground work for developing a "protocol, another legal instrument or an agreed outcome with legal force under the UNFCCC applicable to all Parties"(UNFCCC/CP/2011/9/). The Durban negotiating process stresses the importance of "strengthening the multilateral, rules based system" (C2es 2012:6). COP 17 though significant, provided only a general framework embodied in the Durban Platform for Enhanced Action. The paragraph 5 of the Durban Platform calls for the 'work plan' to address issues of significance like finance, adaptation, mitigation, verification, transparency, capacity building and technology transfers among the various issues.

(b) The Warsaw Conference of Parties (COP19) 2013

The next important event that formed the basis of the Paris agreement was the COP held in Warsaw, Poland in the year 2013. The nations were clearly concerned about climate change as Philippines was hit by the typhoon Haiyan in the days preceding the Warsaw conference. The major outcome of the Warsaw conference was the culmination of the term (intended) 'Nationally Determined Contributions' (NDCs) or INDCs used by countries as the common jargon. This meant that each country's contributions nationally determined for the Paris agreement to be framed in 2015. The United States has always been a firm believer in nationally determined contributions as opposed to binding internationally determined contributions. There was a consensus building up in the years over the need of a hybrid approach the countries should be required to describe what form a part of their own specific national mitigation targets and commitments unilaterally, which would be in accordance with international rules to check the implementation (C2es 2013). As a general rule, the parties to the UNFCCC, under the requirements mentioned in the Durban Platform, were supposed to submit their INDCs well before the Paris climate conference 2015 such that the other countries had the time review each other's pledges and their competence. The EU was rooting for the usage of

the term 'proposed' instead of 'intended' so that there was enough room for the countries to amend the contents of their pledges before they went in the text of the agreement in Paris, the countries.

The AOSIS and particularly the most vulnerable countries to the impacts of climate change were rallying around the cause of "loss and damage". This loss and damage to this susceptible group of island nations results from the havoc wrecked by the rising sea-levels due to the changing climate. Many of these nations wanted a 'compensation mechanism' etched into the text of the new agreement in Paris. Their demands held more importance as the typhoon Haiyan had struck Philippines recently. The developed nations, especially the United States was firm that such a mechanism should not be put in place and the U.S. stance triumphed as this mechanism was left for discussion for the year 2016 (C2es 2013:2). The text of the Warsaw Mechanism for loss and Damage associated with climate change impacts states that it work towards the development of essential guidance and support; review and analyze the information and shore up actions to deal with loss and damage (FCCC/CP 2013).

The Copenhagen conference on climate change 2009 had set up a mechanism whereby the developed nations were to mobilize hundred billion dollars per year by 2020 for helping the developing countries in mitigation and adaptation process. There wasn't much that happened on the finance front since the earlier COPs, so to push forward on the issues of funds, the developing countries called for the developed nations to gather a sum of seventy billion dollars by 2016, which saw opposition from the developed countries, where they refused for any such goal to be set up. UK, US and Norway assured to provide a sum of $280 million for the forest practices and REDD+ endeavors.

(c) The Lima Conference of Parties (COP20) 2014

The 20th installment of the UNFCCC conference of Parties was held in Lima, Peru in 2014. The conference was a way forward from the earlier COPs. It was a part of the series of negotiations which started with Durban in 2011 and were to be concluded in Paris, 2015. The countries parties to the UNFCC were asked to produce the 'elements of a draft negotiating text' for 2015. The Ad Hoc Working Group on the Durban Platform

(ADP) was to work towards developing what would form the part of the contents which accompany the INDCs of the countries. After the endless efforts at negotiating, there emerged the 'Lima Call for Climate Action'.

The question of the scope of the INDCs was a key concern for both developing and developed nations. There were groups of countries who wanted the INDCs to comprise of only mitigation actions and targets, while others wanted these INDCs to give the mitigation and adaptation actions and targets legal equivalence and still others wanted that if mitigation contributions were required to be submitted, there should also be an enlargement of technical and financial aid and funds. Here, the Lima is seen on the same track as the earlier COPs which espoused a language which leaves the contributions in the hands of the countries to be determined domestically. The action plan lists the various kinds of information countries had to provide along with the contributions.

The Lima Call for Climate Action points out the contributions of the individual countries should be a symbol of a "progression beyond the current undertaking of that party" (paragraph 10). This was done in part due to the realization of the fact that if a process is not established for doing so, many countries could commit contributions which may be less than adequate and such contributions must not be lesser than those of the Kyoto Protocol.

Over the years it has been acknowledged that the guiding principle of 'common but differentiated responsibility' (CBDR) principle has seen gradual erosion. The Durban Platform circumvented the CBDR principle completely. The framework agreed to in Lima was a seen working in favor of the universal participation. It becomes clear that any new agreement setting up binding emission targets for the developed countries alone would not be welcomed by the developing countries, so the new action seeks participation by each country into playing their roles. The CBDR principle is venerated by the developing nations and it is difficult that these countries would let go of the principle so easily. It is true that the differentiation principle cannot be sidelined totally, so the principle features only lightly in the form of "different national circumstances".

Shockley and Boranargue that "The focus of the negotiations is on developing and refining architecture, i.e., an institutional structure at multilateral level, which is durable and capable of raising ambition over time. For this reason, the negotiations' main focus,

in the present round, is not so much on the content of international cooperation, as it is on developing collectively the most appropriate institutional structure for the cooperative effort. As a result, the negotiations are neither about determining targets to be applied domestically nor about determining a particular allocation of burdens to be attached to the collective climate effort" (Shockley and Boran 2015:118). This clearly shows that the intent of the climate change negotiations since Durban have been more bent on paving the way for a robust climate structure which is stable and not concern was paid to what goes inside the text of the next agreement.

4.4 INTENDED NATIONALLY DETERMINED CONTRIBUTION OF THE UNITED STATES:

Intended nationally determined contributions or INDCs are each individual nation's climate action plan after the year 2020. These commitments would then be put under the scanner by the UNFCCC and then would form a part of the new climate change agreement which was to take shape in December 2015.

The United States submitted its much awaited INDC on March 31, 2015. The text of the INDC reads: "… the United States intends to achieve an economy-wide target of reducing its greenhouse gas emissions by 26-28 per cent below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28%" (INDC 2015). Along with the percentage of emission reductions the country has also provided information needed on clarity and transparency which aid better understanding of the commitments. The US has laid out a plan to cover all the GHGs which formed the part of its '2014 Inventory of US Greenhouse Gas Emissions and Sinks' and these include carbon dioxide, methane, nitrous oxide, per fluorocarbons, hydro fluorocarbons, sulfur hexafluoride and nitrogen trifluoride.

The US has set 2005 as the base and 2025 as the target year. On the question of market use, the United States has summed up that it does not aim to use market based mechanisms for implementing its targets to be achieved by the year 2025. The INDC gives details of the domestic laws and regulations which are already in place and would

help in achieving the set contributions. It cites the Clean Air Act, the Energy Independence and Security Act and the Energy Policy Act as the domestic actions which would the nation to achieve its post-2020 climate change commitments.

The United States listed a few of its domestic actions it has already taken, which are underway and which it would take in the future. One of the measures taken by the country is comes under the Energy Policy Act and the Energy Independence Act whereby measures have been concluded regarding the emissions from the building sector which also undertakes the determination of building codes. The other thing which the texts mentions is that under the Clean Air Act measures regarding fuel economy standards have been put in place for light-duty vehicles and heavy duty vehicles for years 2012-2025 and 2014-2018 respectively (INDC 2015).

In the category where efforts are still processing, the US through the Clean air Act, has been on the path to build up norms on curbing emissions from landfills and the oil and the gas sector, which largely comprise of methane emissions. The US is moving fast to set up the regulations required for cutting back the emissions from old and new power plants. While the US submitted its INDC, there was much curiosity about whether its contributions would really be up to the mark where it would prove a positive step forward for combating climate change.

For a country like the US, which was once the largest and the biggest carbon dioxide emitter in the world, which holds the historical responsibility in climate degradation, it is indeed a way forward. It is also visible that Obama has been pushing forward the issue of climate change. Obama, by taking the issue of emission regulations by the way of EPA, took an official legal way. The important point to be mentioned here is that the US is taking actions not only on the federal level, but its cities are taking stronger actions to fight climate change by and if the current trend of decreasing prices of the renewable sources of energy keeps going, it may even achieve much stronger reduction of its emissions.

It was very well understood that until and unless the US commits, there will not be a possibility of a sound and robust agreement in Paris. Many countries have called the INDCs produced by the US as merely business-as-usual, while still others argue that the INDCs are quite insufficient to curb the spread of emissions and keep the temperatures at

two degrees in this century, still others point out that the country, though has taken steps but more needs to be done if we need to pass on a safe environment to the future generations. One of issues that surfaced regarding the INDC was that the document keeps mum on the question of adaptation. The US did show that it is getting serious on doing its role and taking the responsibility of its actions in the past, but still its efforts need more push. It becomes clear that though many hail the INDCs as a means through which the country outlined practical and achievable targets, but there has been a sense that this would not prove enough for the cause of our only planet.

4.5 THE MAIN EVENT – PARIS CLIMATE CHANGE CONFERENCE (COP 21) 2015:

The event that everybody was so passionately waiting for happened in 2015. It was the 21st Conference of Parties (COP), held at Paris from November 30-December 12, 2015. The international community has been very cautiously developing consensus on issues of importance, though there are many issues that still have not been completely solved, but overall, parties have managed to work in cohesion. Even before the conference opened, the conference had garnered much fanfare. Some saw it as a crucial moment in the history and some hailed it as a success even before it formally began. Then there were some who reasoned that by looking at the INDCs submitted by the countries it becomes crystal clear that the commitments will not be enough to keep the temperatures below the said goal of two degrees. The general mood before the conference was one of cooperation which started from the US-China statement and Joint agreement on climate change. The countries set an example for the world to follow. These were the two biggest emitters in the world and they found a common ground to reduce the damage caused to the climate.
Months before the conference, China submitted its much awaited INDC. China's INDC was critical for moving ahead in the right direction. As during the US-China statement, the Chinese INDC submitted to the UNFCCC held that the nation would peak its GHG emissions by 2030 and would make sincere efforts to peak even before the target year 2030. This was the first time ever that China came forward to reduce its carbon

emissions. China also pledged to invest more in its already increasing solar, wind clean renewable sources of energy and China is already doing its role bit in reducing the GHG gases by taking solid initiatives in its cities. China also pledged to set up nationwide carbon trading system and its implementation.

The one thing that stood out the most and for the very first time was Pope Francis' encyclical on climate change. This was the first time that Pope came out to speak on the subject of climate change and said "a very solid scientific consensus indicates that we are presently witnessing a disturbing warming of the climatic system" (Paragraph 23). While many observes called the effort by the Pope as truly remarkable, there were others who criticized him stating that the Pope should not meddle in issues of science and politics.

The next thing which needs emphasis is the US-Brazil agreement which came out on June 30, 2015. President Obama and DilmaRousseff of Brazil made a statement regarding the same. In words of David Sandalow "The US and Brazil have not always worked closely together on climate. Obama and Rousseff have had a strained relationship for several years, since the reports that the US National Security Agency spied on Rousseff and her aides. So the fact that President Obama and President Rousseff met, agreed on a climate announcement and then highlighted it required a number of barriers to be overcome" (Sandalow 2015:3).

Dimitrov gives an account of what were the political disagreements remaining even after the Copenhagen climate conference 2009 (Dimitrov 2010). Its general knowledge now that the AOSIS and a few more vulnerable nations from the African continent have always pushed for harder targets and they stand for efforts to keep the global warming levels at 1.5 degrees, but on the other hand, the developed nations have not been able to agree on keeping temperatures at 1.5 degrees for the century, only mentioning that there may be a possibility of taking up the 1.5 degree target subsequently. According to Dimitrov, the world hasn't been able to agree on a uniform base year to measure emission reductions. Dimitrov says: "division of labor in international funding policies: whether developing countries should also pay and whether to assign financial contributions using a mandatory scale or indicative scale or on a purely voluntary basis" (Dimitrov 2010:816). The countries still worry over from which sector the climate finance should come from, the public or the private.

Todd Stern, the Chief US negotiator stated that, "The stars are more aligned to reach agreement than I have ever seen before… There is no comparison between Paris and Copenhagen in 2009. We have this opportunity, this moment. Countries are going to have to be willing depart from some of their fixed positions to seek common good. We can get this done. We will get this done…You cannot ask countries to act in ways that are inconsistent with their growth imperatives. Countries need to act in a way that they think they can manage. We can't just say to developed countries that 'this is your burden'" (The Guardian 2015). As the time came closer to the Paris conference, the parties to the conference had a better understanding of each other's stands and policy propositions. The major gaps between the developed and the developing countries were being filled and the world was working towards a unified effort to reach an agreement rather than bicker over issues. The effort was invariably to bridge the gaps between these nations.

4.6 THE PARIS OUTCOME:

The Conference of Parties 2015, held in Paris, finally reached an agreement on December 12, 2015. It was hailed as a landmark agreement by many observers. The outcome of the Paris conference was the Paris agreement, which was achieved after intense four years of negotiations which started with Durban COP17 in 2011. The agreement and the Conference of Parties' decision details the question of NDCs, finance, talks about 'loss and damage', about mitigation and reporting of the progress made on achieving the said INDC. The Paris conference was quite different from the beginning itself, as the French hosted the event with much more dexterity than the previous major COP 15 Copenhagen, which was marred by conflicts of ideas and all the melodrama.

The Paris agreement though is a treaty in international law, but many of its provisions are not legally binding, which means that only some parts of the agreement are legally binding in character. There was a curiosity among the negotiators and the world over whether the US would be able to get the agreement ratified in the Senate. The two options before the US were to either push for an agreement which would have parts which were legally binding or use its unique status in the world to bargain for a treaty which is not legally binding. There were other easier options available for Obama like

the tool in the hands of the American executive- the executive orders and President Obama has been taking the help of executive orders to formulate climate change policy. The flipside of these executive orders and agreements is that the next President can reverse Obama's policy easily. Now the situation after attaining an agreement in Paris is such which favors Obama's climate change efforts and avoiding the Congress.

The agreement has again emphasized that goal of keeping the global warming temperatures should be below two degrees also urging the countries to make sincere efforts to curb the warming at 1.5 degrees. In the agreement it was decided upon that there would be established a Paris Committee on Capacity-building and that it would seek to "address the gaps and needs, both current and emerging, in capacity-building in developing country Parties and further enhancing capacity-building efforts, including with regard to coherence and coordination in capacity-building activities under the Convention" (FCCC/CP/2015:10). The agreement goes on to state that the developing countries can take these capacity-building over 'space and time'.

On the issue of finance, there have been divisions in the past and these were apparent in Paris too, with developing countries asking for stronger promises that the financial support would be increased over time and the developed wanted the developing countries which are doing better than other developing countries economically, to contribute to the climate change mitigation and adaptation funds. The developed countries were told to make available funds for adaptation and finance for developing nations. The Paris agreement made it voluntary for the wealthier developing countries to add to the financial support. The agreement and the decision of conference of parties extend the earlier COP goal of hundred billion all the way through 2025 and past that too. On the question of 'loss and damage' the agreement decided to continue the 'Warsaw international Mechanism for Loss and Damage'. This was a major step benefitting the vulnerable small island nations.

Common but differentiated responsibility principle in the prior UNFCCC meetings and agreements was critical to address the different capabilities and capacities of developed and developing nations. This principle has seen gradual erosion and in the Paris agreement we see a categorical shift from the two track approach of the Kyoto Protocol. The shift reflects in the many areas of the agreement where countries are required to act

in coherence with their 'national circumstances'. The agreement plays the transparency card for accountability of the countries. There is provision that the developing countries would be required to put forward a report on how support they received and as for the developed nations, they would have to report the support they offered. All countries are to submit "information necessary to track progress made in implementing and achieving" their INDCs. The decision reads that the reports are to be presented every two years.

The agreement asks the countries to peak their GHG emissions as soon as possible. The developed nations are required to take unqualified economy-wide emission reductions whereas; the language used for them "encourages" them to do so.

4.7 ANALYSIS:

Any analysis of the agreement would start by stating the obvious that this time it was different since day one and the conference was able to proceed calmly and was hailed as a breakthrough by many.

What did the US do before and during the conference? If we look at the role that the country has been playing over the years on climate change, it comes out as a country which started as a leader and then turned a nightmare for the climate change negotiations and eventually putting Kyoto on death bed. Obama, after winning a second term to Whitehouse has been quite active on climate change scene, despite the fact that the Republican dominated Congress has been bent on stifling any efforts towards putting effective legislation in place for reducing climate change. The Obama administration tried sincerely to negotiate at every multilateral and bilateral level to attain an agreement in Paris. Obama went on to build trust and cooperation among the nations like China, India and Brazil, which made it easier for the world to achieve success at Paris. The US was able to exploit the divide between China and the other developing countries. The picture is such that the Chinese economy with its growth and more GHG emissions than the other developing countries could not be on the same page on climate change issues and demands. Earlier, it was visible that developing countries and China had been demanding similarly and this has changed over the years owing to the tremendous growth of China.

Clemencon notes that at Paris John Kerry, the US Foreign Secretary that the continued insistence on legally binding emission reduction targets could land the conference in soup and would not lead to any success. He says that "at a press briefing at the beginning of the conference, Todd Stern-the US special envoy for climate change-sold the US opposition to any binding commitments with the argument that by not requiring legally binding targets, more developing countries will be motivated to take action" (Clemencon 2015:6).

Steven W. Popper of the RAND organization says that the earlier climate change negotiations worked with the aim of setting targets for a future twenty to thirty years, which would be then abandoned when it was realized that it was not leading to any concrete results. Popper goes on to argue that what were remarkable of the Paris agreement were its provisions to check every five years to keep a tab on what are the countries doing as regards their commitments and check what is working fine and what isn't (Popper 2015:2).

One of the truly remarkable outcomes was the 'Breakthrough Energy Coalition' led by the very famous Bill Gates and works along with other billionaire businessmen and philanthropists like Mark Zuckerberg and Richard Branson. This group has pledged a sum of $350 billion and plans to invest in clean-energy technology innovations. Bill Gates is also the part of Mission Innovation which is an initiative undertaken by the governments of around twenty nations, with major countries like US and India forming a part of it and pledging to increase their expenditure on clean technologies by almost double. This step has been fundamentally taken to show to the less developed nations that support would be given to countries which transform their economies into using less carbon.

What the ambitious targets and the initiatives like the Breakthrough Energy Coalition have done is that they have set the future of companies working in and with expanding their markets. As the markets for renewable expand and the prices of such renewable sources of energy thrust downwards, the less developed nations along with the developed and the other developing nations would stand to benefit massively as these would help them move towards clean energy alternatives at a lesser price. The Paris agreement in essence put forward the image of clean technology and innovation as the ultimate savior.

Though many have heaped praises for the agreement, the criticisms of the agreement are many too. C.L. Splash argues that "it is a fantasy which lacks any actual plan of how to achieve the targets for emission reductions. There are no mentions of GHG sources, not a single comment on fossil fuel use, nothing about how to stop the expansion of fracking, shale oil or explorations for oil and gas in the arctic and Antarctic. Similarly, there are no means for enforcement" (Splash 2015:3). The agreement lacks substance; it lacks firm and deeper emission cuts and just requests the countries to do more over time. The emission cuts that the countries submitted were totally out of sync with actually needs to be done to keep the temperatures below two degrees. The agreement does not talk about what action is needed to stop burning the fossil fuels. James Hansen said that, "it's just worthless words. There is no action, just words. As long as fossil fuels appear to be the cheapest fuels out there, they will be continued to be burned" (The Guardian December 12 2015).

The agreement has failed the developing countries, since it does not provide the adequate guidelines on how to protect the developing countries the threat that climate change poses. Developing countries are nations which are still moving in the direction of growth, they haven't truly achieved it. So, it is clear that as compared to the developed world, which can make use of resources available to address the issue when any natural calamity strikes them, developing countries lack the wherewithal to deal with the issue delicately with efficiency. This is largely due to the fact that they lack the required resources and the technology to caution them about the danger that is standing on their gates.

The agreement's one the elementary flaw has been the much talked about 'voluntary' national contributions and the national measures clause. By making emission pledges voluntary the agreement may have gained more signatories but lost on differentiation principle that was one of the core principles of the previous climate change negotiations and since there is no provision for punitive actions against the defaulters, it essentially follows what Copenhagen achieved in 2009. In the end, it needs to be mentioned that Article 21(1) of the Paris agreement mentions that the agreement can enter into force only if fifty nations which account for almost fifty five percent of the world's total GHG emissions accede, accept, approve or ratify the agreement (UNFCCC 2015). The agreement was open for signatures on April 22, 2016 by the UN Secretary General Ban ki

Moon in New York. In the ceremony for the signing of the agreement, 174 nations and the European Union became the signatories of the agreement and as of June 29, 2016 there were 178 signatories to the Paris agreement (UNFCCC 2016). At present 19 countries have submitted their instruments of "ratification, acceptance or approval accounting in total for 0.18% of the total global greenhouse gas emissions" (UNFCCC 2016). The terms used in the agreement- ratify, accept, approve and accede, hold different meanings and would require different domestic actions. On the issue of ratification, which would require the agreement to be brought before the Congress, there have been many speculations and it is clear that President Obama does not want to take the Congress route and has been making efforts to avoid the Congress on the issue. Thus, this means that the option left with Obama is to adopt and implement the Paris agreement by the way of an executive order. President Obama has tried hard enough to carve out his legacy through the climate change negotiations and the subsequent agreement but if he chooses the 'executive order' path, chances are that if a Republican president comes to occupy the Whitehouse, then 'he' could reverse the policies and walk out of the Paris agreement just like the Kyoto Protocol.

CHAPTER 5

CONCLUSION

The history of climate change has seen both active phases and the phases of criticism and questioning of science behind climate change. Rachel Carlson's book 'The Silent Spring' was among the very first writings which alerted the world to the looming disaster. To bring the issue in before everybody the Stockholm Summit was held in the year 1972. It was the first major event of its kind. It brought the issue of environment and development together; it was the first ever effort to link the two. Throughout the history of climate change and issues of environmental concern, the US has played on and off role in climate change negotiations. The US started as a world leader on spreading awareness on the question of environment, global warming and climate change, but subsequently, slipped into a more precarious mode and then again started to reclaim its leadership in climate change negotiations in the past few years. It has been noticed that environment gets more attention when the democrats were a ruling majority and the Republicans have always been worried about business interests, economic growth and jobs in the country than saving the environment.

To begin with, the 1960s and the 1970s were categorically, without any doubt the best years of environmentalism and environmental activism. The decade of the 1970s was the golden age or the 'Environmental Decade' in US environmental history. The Congress was active and the administration was well aware of the situation that human-induced activities had brought upon the environment. The decade saw the passage of environmental laws which form the basic structure of environmental legislations in the United States. Chief among them was the birth of National Environment Policy Act (NEPA) 1970 and the Clean Air Act (1970). This was truly the decade of blossoming environmentalism and was a period which saw an increase in the number of environmental NGOs and their memberships. Everybody from the administration to the public to the Congress and to the judiciary was active participants of the environmental decade.

The US policy saw changes in favor of business and big business groups when Reagan took over the Whitehouse in the 1980s. The Reagan administration dealt a heavy blow to the environment. What started with Reagan was followed by Bush senior and Bush junior subtly. The nation which took pride in discussing about environmental issues was soon transforming into a dreadful reality for the environmentalists within and outside the country. The US used to be at environmental forefront as witnessed in the Stockholm conference and the Montreal protocol, leading the way and guiding the countries to take actions relevant to save the environment. It was indeed a role model for many of the developed and the developing nations, since this was the economic giant who was taking action in the arena of domestic politics with its array of domestic legislations and its lead on international platforms. This was also the time when the country was active adherent of multilateral approach to solving the environmental problems.

Things changed when the administrations were played by the big business groups and earned huge donations from them to keep the issue low on the US agenda. The big business groups have been quite resourceful in employing tactics to show that the science of climate change has always been uncertain about the role of human activities in climate change and have been found making use of climate skeptics in policy arena to prove that the science is not right and the changes in the climate have been a natural phenomenon experienced by our planet since times immemorial. The Kyoto Protocol was the worst hostage of the domestic constraints inside the country. The protocol was the first step to put binding emission reduction targets on the developed countries and was based on the principle of differentiation. Even before the meetings on the protocol began, the domestic scenario of the US where, the opposition included big business firms and industries to the passage of protocol, passed the Byrd-Hagel Resolution which made it clear that any agreement on climate change which doesn't put equal restrictions on major developing nations like China and India, whose emission reductions are rising by the day, will not be ratified in the US.

The US policy on climate change issues has always stressed on flexibility on climate change issues. The US has been the worshipper of 'voluntary' nature of reductions and their contributions. The US policy in climate change negotiations has been more inclined towards its economic growth rather than a concern about saving the climate. This is in

part because the business groups put huge pressure on the government to deviate from the path which leads to massive reductions as they think that this would lead to their downfall and have put up the argument that not only will it detrimental for the industries, but will also negatively affect the jobs opportunities of the citizenry. The US, before the Copenhagen Conference (2009) appeared to be first committing to an agreement and then gradually either delayed signatures or did not submit the document for senate approval. When we look at the politics behind the US climate policy in such negotiations, it becomes clear that the domestic players have played a very critical role in determining what the US policy would be in the international climate change negotiations. Broadly speaking, the US prefers to act unilaterally and on climate change policy it has been quite inconsistent. The US on occasions has been very proactive in such negotiations as was in the case of ozone layer depletion and at other times has pushed for lesser restrictions and has restricted its action, even when the consequences of not taking action would have been catastrophic.

Chapter 2 discusses the domestic players and the roles they play in the formulation of US policy on climate change, with which the US enters the climate change negotiations. The chapter focuses on the roles of the Congress, the executive, the NGOs and the big business groups in detail. The Congress which comprises of both the Republican and the Democratic political parties has been largely dominated by the Republicans over the years, which means that it would be difficult to get any act and law passed in the Senate. The Republicans have been in vociferous opposition of climate change. They have made every attempt to block legislations on critical environmental issues as they did by passing the Byrd-Hagel resolution or by not getting the cap and trade bill passed.

The chapter shows that at various junctions the President's hands are tied because of the stiff opposition from the Republican dominated Congress. This does not mean that the President is a mere puppet in the hands of the Congress and can do nothing about the issue. President Obama has made it very evident that the President can actually do a lot at his level to make laws and rules. Obama has made use of 'executive orders' and quite a few of them to bypass the Congress and this has largely helped the image of the country, the President and the climate change cause. The chapter has detailed the roles played by the presidents from Bush senior onwards and till Obama. Both Bush senior and Bush

Junior proved to be not supporters of climate change negotiations and legislations. While H.W. Bush projected him as the environmental president in his electoral campaign, the reality pointed otherwise and the declaration by Bush junior that America would never ratify the Kyoto Protocol, was nothing less than a disaster. In the chapter it came out that the environmental NGOs though they do not have the resources and finances like the business groups, yet they influence the policy making procedures in many ways. These organizations use various measures to impact the mindset of the general masses. Among the tactics used for mass mobilization has been organizing protests, because by doing so they become more people-centric and when people get organized in a phenomenon like this, the chances are that the authorities would pay more attention to the issue. These organizations have been seen to make use of publishing reports on the policies adopted by the government at all levels. Through these reports, by conducting thorough analysis, the truth about the actions taken by the government comes out in the open and then the policy makers too can consult these reports to make policies. As mentioned earlier, many industrial groups have been against strict environmental laws and have worked in every possible way to stop the government from taking firm action on climate change, but there have been groups in the United States which have worked discreetly towards cutting back on the emissions and have invested in clean technology. The chapter reaffirms that domestic politics and domestic players determine to a large extent what policy the US would adopt in climate change negotiations.

The third chapter finds out in depth about the Copenhagen Conference on Climate Change, 2009. The truth is that the conference witnessed many differing opinions from the developed and the developing nations. The chapter talks about the various issue areas before the conference, the moves of the developing and the most vulnerable countries, the problems that marred the conference and the US role in the making of the draft text of the Copenhagen accord among many other things. It was found that President Obama, early in his first term, was hopeful of achieving an agreement, but as it turned out at the scene of the conference, that the accord was just an effort made by the leaders of some select countries to save the face. The reality was that there were many topics of concern which were not dealt with properly at the conference.

The US-China rift was quite visible and their efforts to come together largely did not work out. The result of this rift was a weak accord. It is now apparent that the US was anxious about the economics. It did not want any agreement which did not bind the Chinese and the Indians. There was a sense of understanding within the US side that if the agreement leaves out these two nations specifically, it would give them undue advantage in economical terms and the US economy would in essence suffer therefore. India and China pointed out that they cannot take binding commitments at this crucial juncture of their economic growth.

The fourth chapter delves deeper into the most recent Conference of Parties (COP21) held at Paris in 2015. The chapter builds slowly towards the conference by first listing out the importance of the environment in national security discourse starting from the cold war. The concept of security that held ground during the cold war years does not fit in the world we live today. Today the term security has come to acquire deeper and much more nuanced meaning than the cold war years. The term has been expanded in its scope to cover the changing nature of threats faced in the twenty first century. The security challenge we face today in the form of climate change runs beyond any traditional understanding of the term. The nature of these threats is not under the control of any one nation alone, it does not recognize any boundary and border. Since the threat is so pervasive, the global effort to tackle the problem must truly be global and reflect coherence and unity. Instead, the countries have been embroiled in bitter quarrels over whose responsibility is it to rectify the damage done to the environment and bicker over issues of finance and technology transfers.

Next, the chapter traces the line of negotiations leading up to the Paris conference. The first step towards the realization of the Paris agreement was the Durban conference of 2011, where the foundations of the agreement were first laid by starting the four year period of meetings solely working towards reaching a legally binding accord or agreement. The process was hard as there were important issues which needed consensus within the US and the international community. It was known from the start that any agreement which comes up should see active US participation.

The US still has been obstinate over taking domestic actions and voluntary pledges and commitments. One the basic reason behind this attitude has been the US Congress and

the Republicans. The Republicans have by and large tried to block any climate change legislation which emphasizes on economy-wide emission reduction targets and any legally binding agreement which does not treat the wealthier and more polluting developing nations at par with the developed nations. They have always argued that yes climate change and environmental degradation started with the developed nations, but why should it be only them who take the major responsibility to reduce emissions which hurt their economy and why leave developing nations whose economies are in transition and release almost equivalent amounts of carbon dioxide now.

The world's biggest economy and the second largest GHG emitter and as a nation which influences the lives of many in other countries, the US should take more actions than it currently undertakes. The country prefers a top-down approach in any agreement. US has been bargaining hard for a nationally determined commitment framework for an agreement since Copenhagen and this became obvious when the Warsaw conference adopted this language of commitments to be determined nationally. This just shows how the world has come to fear that if the demands of the United States are not fulfilled (even if partially), the result would be yet another Kyoto repetition.

The major head-turner was the US-China statement on climate change. This was truly brilliant and deserves the applause it gained. It prompted the US into taking a leading role in the Paris conference. The joint announcement enhanced cooperation between the two nations and was a glaring example that differences can be overcome if the threat that lies ahead is as ghastly as climate change. The statement boosted the morale of not only China and US, but also of other nations who were tensed about the growing tensions between the two countries and what would have become of the Paris conference if the two had not agreed on some common grounds. There is an underlying understanding that if actions are not taken now it would be insignificant to take actions in future as the challenges posed by a changing climate are real and immediate. The cooperation between the two countries was an important step as the earlier conferences and meetings have tasted a bitter pill since the US wanted China as the leading emitter to take up binding emission reduction targets and China wanted stricter actions from the US owing to its historical responsibility and also made a case that at this stage of development, it is not

possible for China to take any binding emission targets. The US made use of the growing differences between China and other developing countries who earlier posed as a united front but considering China's huge economy and carbon emissions have distanced themselves from the nation. Working slowly and thoroughly, the US exploited the weaknesses of the developing nations, China and by announcing the statement with China; it was able to take up its lost leadership in climate change negotiations.

Though the agreement that emerged from the Paris conference was not as strong as the world could have hoped for, the mere fact that there were no procedural showdowns like the Copenhagen conference, was a proof enough that the world was coming closer to cooperation. The nature of the agreement is such that many parts are legally binding and many are not, which makes it much easier for Obama to get it ratified, but the problem here is that Obama would be leaving the Whitehouse in January 2017 and what if history repeats itself and the next President could do what Bush Junior did to Kyoto.

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