A Study of Major Negotiating Groups on United Nations Framework Convention on Climate Change

Dissertation submitted to Jawaharlal Nehru University
in partial fulfillment of the requirements
for award of the Degree of

MASTER OF PHILOSOPHY

POOJA SEHBAG

International Organisation
Center for International Politics, Organisation and Disarmament
School of International Studies
JAWAHARLAL NEHRU UNIVERSITY
New Delhi 110067

2018

Centre for International Politics, Organization and Disarmament
School of International Studies
JAWAHARLAL NEHRU UNIVERSITY
New Delhi - 110067, India

3rd December 2018

DECLARATION

I declare that the dissertation entitled **"A Study of Major Negotiating Groups on United Nations Framework Convention on Climate Change"** 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.

Pooja Sehbag

POOJA SEHBAG

CERTIFICATE

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

Prof. Yeshi Choedon

(Chairperson, CIPOD)

Prof. Yeshi Choedon

(Supervisor)

Tel: (011) 26704349 Email: chair_cipod@mail.jnu.ac.in website: jnu.ac.in/sis/cipod

CONTENTS

ACKNOWLEDGEMENT

I would like to thank my supervisor Dr. Yeshi Choedon for her constant guidance and support. It is only because of her supervision and direction that this research could be accomplished. I would also like to thank her for keeping me motivated during the entire year and honing my research skills during the research workshops conducted by her. She has been a source of inspiration and a support system without whom this research wouldn't be possible.

I would also like to thank Prof. C.S.R. Murthy, Dr. Archana Negi and, Dr. Moushumi Basu for their useful inputs made during the presentation of my synopsis. It is due to their beneficial observations and insights that important points were incorporated in the study.

A token of appreciation would be extended to the office staff for their timely assistance. The same would be extended to Mr. Sanjay (our photocopier) for his timely help and support.

I would like to extend gratitude to my parents and Mohan Singh (brother) for being patient towards me and for their support whenever I needed it during the period of this study.

POOJA SEHBAG

LIST OF ABBREVIATIONS

AIMS	Africa Indian Ocean Mediterranean and South China Sea
AOSIS	Alliance of Small Island States
BoG	Board of Governors
CANZ	Canada, Australia and New Zealand
CFCs	Chlorofluorocarbons
COP	Conference of Parties
EC	European Community
FWCC	First World Climate Conference
G- 77	Group of 77
G-7	Group of Seven
GEF	Global Environment Facility
ICSU	International Council of Scientific Unions
IGO	Intergovernmental Organisations
IISD	International Institute for Sustainable Development
INC	Intergovernmental Negotiating Committee
IPCC	Intergovernmental Panel on Climate Change
NAM	Non- Aligned Movement
NGO	Non- governmental Organisations
OECD	Organisation for Economic Co-operation and Development

OEEC	Organisation for European Economic Co-operation
OPEC	Organization of the Petroleum Exporting Countries
SCEP	Study of Critical Environment Problems
SMIC	Study of Man’s Impact on Climate
SWCC	Second World Climate Conference
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
US	United States
WB	World Bank
WCP	World Climate Programme
WMO	World Meteorological Organisation

Chapter 1

Introduction

Given the significance of United Nations Framework Convention on Climate Change (UNFCCC) as the parent convention, it is interesting to examine how the major groups participated in its drafting in the Intergovernmental Negotiating Committee (INC) under the aegis of United Nations. By examining the role of major negotiating groups, the study will seek to analyse how major negotiating groups influenced each other while negotiating the United Nations Framework Convention on Climate Change (UNFCCC).

Background

The understanding of the issue of climate change is based on scientific observations around greenhouse gases and the atmosphere. Some gases in the atmosphere absorb infrared radiations, i.e. heat and re-radiate it towards the earth surface. This results in a gradual increase in earth's surface temperature. Because these gases trap the heat in an atmosphere similar to the glass of a greenhouse, this phenomenon came to be known as the greenhouse effect. The greenhouse effect was studied by the Nobel-prize winning Swedish chemist Svante August Arrhenius in the nineteenth century (Arrhenius 1896). Greenhouse gases include water vapour, carbon dioxide, methane, nitrous oxide, and ozone. These gases are naturally present in the atmosphere to trap infrared radiations coming from sunrays and keep earth surface warmer. Earth would have been 33 degree Celsius colder without the natural greenhouse effect and therefore uninhabitable (Bodansky 1993: 456). So the naturally occurring global climate variability is an effect of greenhouse gases, and this variability doesn't connote climate change.

The significant change in climatic conditions can not be considered as a naturally-occurring phenomenon. It is a result of anthropogenic activities, and rate of greenhouse gas emission increased markedly after the industrial revolution in the eighteenth century. The increasing concentration of greenhouse gases in the atmosphere ultimately resulted in a significant increase in global temperature and a stark change in global climatic conditions.

Global warming has caused a chain of action-reaction, which ultimately has led to disruptions in global climatic patterns in many ways by impacting temperature and precipitation patterns. It has increased the rate of glacier melting which has led to sea level rise, which has in

turn led to the vulnerability in low lying states. Global warming has also impacted precipitation patterns leading to climatic extremes. As a result, some places have witnessed consistent droughts, and other places keep facing heavy rains.

The theory of greenhouse effect was known to scientists even during the industrial revolution, but the paucity of monitoring mechanisms of the concentration of greenhouse gases delayed the recognition of these adverse impacts. It came under detailed scientific scrutiny from the late 1950s onwards; as monitoring of atmospheric carbon-dioxide concentration in Antarctica and Hawaii began in those years (Keeling et al. 1984).

Due to growing knowledge and concerns linked to implications of climate change to humanity, scientists along with non-governmental organisations and international organisations such World Meteorological Organization (WMO) and United Nations Environmental Programme (UNEP) began to create awareness and mobilise the political bodies to take action to address the climate change. They did so through conferences, research networks and scientific assessments. For instance, in 1963 US-based NGO, Conservation Foundation convened a high-level meeting on global warming. In this meeting it concluded, "It is estimated that a doubling of carbon dioxide content of the atmosphere would produce a temperature rise of 3.8 degree Celsius" (Kellogg, 1987: 115). In 1965, the first official recognition of this issue came from the US President's Science Advisory Committee. It noted that climate change could be caused by human activities and could have important consequences (President's Science Advisory Committee 1965).

The First World Climate Conference (FWCC) was convened in 1979 by the World Meteorological Organization (WMO), which provided a major international forum devoted exclusively on global warming and how it could affect human activity. The participation in the conference was dominated by scientists and bureaucrats. The Conference issued a statement which called upon world governments to prevent potential man-made changes in climate that might be adverse to the wellbeing of humanity (WMO 1979). The conference laid the groundwork for a series of workshops on climate change. These workshops were conducted under the aegis of WMO, United Nations Environment Programme (UNEP) and International Council of Scientific Unions (ICSU), in order to understand the problem in a better way. These conferences were held in Villach, Austria in 1980, 1983 and 1985. It was at Villach in 1985 that

a consensus was reached by a group of scientists that 'in the first half of the next century a rise of global mean temperature would occur which is greater than any in man's history' (Agrawala 1998: 608). They also recommended that 'scientists and policymakers should begin an active collaboration to explore the effectiveness of alternative policies and adjustments' (WMO, 1985). The discovery of the ozone hole in 1987 provided factual backing to scientists' claim. Eventually, through the pro-active efforts of the then UNEP Director Mostafa Tolba, the Vienna Convention on Ozone was formulated in 1985, and that convention set the ball rolling for making climate change an international political agenda (Agrawala 1998: 609).

The establishment of Intergovernmental Panel on Climate Change (IPCC) with the collaborative efforts of WMO and UNEP and, signing of Montreal Protocol to Vienna convention made 1988 the watershed for climate change issue. The various reports produced by the IPCC made the political bodies to understand the gravity of adverse consequences of climate change and resolved to take action collectively. Noordwijk declaration on climate change of the Ministerial conference in 1989 reflected the economic complexities and North-South dimension. This declaration also recognised the need for a framework convention as the developing countries were not ready to see climate change issue in isolation and as a mere technically scientific phenomenon. They did not agree to formulate the framework convention under the aegis of technical agencies such as IPCC, UNEP, and WMO. Developing countries were associating developmental issue with climate change issue. They demanded United Nations be kept as principle engine of climate change negotiations. Hence the forty-forth sessions of United Nations General Assembly (UNGA) implicitly accepted this position by stating in a resolution that the General Assembly was the appropriate forum for concerted political action on global environmental problems. The UNGA in 1990 decided to establish the Intergovernmental Negotiating Committee (INC) as a "single intergovernmental negotiating process under the auspices of the General Assembly" (United Nations 1990). These developments set into motion the ground for complex negotiating process at the UN through the INC which culminated in the framing of the United Nations Framework Convention on Climate Change (UNFCCC). The intergovernmental processes involved various countries and negotiating groups including G-77 and China, Organisation for Economic Co-operation and Development (OECD), Alliance of Small Island States (AOSIS) and Organization of the Petroleum Exporting Countries (OPEC).

According to the Yearbook of International Organizations, OECD, Group of 77, OPEC and AOSIS are intergovernmental organisations (IGOs) (Union of International Associations 2017).

In intergovernmental processes on the issue of climate change, OECD while was in initial agreement and also played a leadership role in terms of agenda setting, eventually saw differences within the group particularly between US and European countries on the aspect of historical responsibility. Group of 77 based their common position on the plank of development as a priority for developing countries and also underscored the aspect of historical responsibility of developed countries. G-77 also pushed for broadening the institutionalisation of climate change as an issue through a convention. OPEC behaved as challengers of the science of climate change given economic interests in the energy sector of the member countries of the IO. For AOSIS, given the unique vulnerability of member states, the coalition essentially wanted that the voices and concerns of small island states should be incorporated in the outcomes of multilateral processes at the UN on the issue of climate change.

Given the significance of UNFCCC, it becomes relevant to understand the position of major negotiating groups in the negotiating process and how the UN provided a valuable forum not only to air their differences but also to iron out their differences to produce an acceptable convention for all the stakeholders.

Literature Review

The existing literature related to the study is reviewed in the following themes: climate change as the international issue, United Nations on the issue of climate change, origin and characteristics of major groups negotiating in climate change negotiations, and the positions of these groups within the Intergovernmental Negotiating Committee.

Climate Change as International Issue

The basis of climate change to be a major issue of international concern is informed by an overwhelming body of scientific evidence that indicates that the Earth's climate is changing, predominantly as a result of an increase in greenhouse gases caused by human activities (IPCC 1992, 2007 and 2013; WMO 1985). The natural causes of climate change include variations in the sun which has led to increased and decreased the amount of solar energy reaching earth and volcanic eruptions have generated particles that reflect sunlight and increase greenhouse gases

contributing to episodes of global warming (Lean et al. 1995; Riebeek 2010; Robock 2000). There is general agreement among scientists that these natural causes while still in play today, their influence is too small or they occur too slowly and do not explain the rapid climate change seen in recent decades (Riebeek 2010). Literature which denies anthropogenic climate change also exists (Tol 2016). Dunlap and Jacques (2013) and Dunlap and McCright (2011) trace an organised lobby backed by vested economic interests which propagates the idea of climate change denial. The findings of scholarship skeptical of climate change has been refuted by Cook *et al.* (2016) who based their argument on the premise that Tol (2016) arrived at erroneous conclusions on the scientific consensus due to conflation of the opinions of non-experts with experts and the assumption assuming that lack of affirmation amounts to dissent. Scientists have so thoroughly examined and tested and validated by independent observations and studies, and there is a robust consensus that anthropogenic global climate change is occurring (Anderegg *et al*. 2010; Cook *et al*. 2016; Cook *et al*. 2013; National Research Council 2001; Oreskes 2004). The consensus position as articulated by IPCC which puts forth that human influence has been the dominant cause of the observed warming since the mid-20th century (IPCC 2013). The consensus position by the IPCC was endorsed by the National Academies of Science from 80 countries (Cook *et al*. 2016). Scholars have also examined the distinct role of epistemic communities and non-governmental organisations in terms of elevating the issue of climate change in international discourse. A growing body of literature has explored the interface between climate science and politics in the international arena (Agrawala 1999; Andresen and Østreng 1989; Jasanoff 1990; Haas 1992). These scholars examine how science has informed policy and has contributed to elevating the issue of climate change to be a global issue. Scholarship on early issues of climate change has attempted to capture the role of the United States in scientific assessment processes (Agrawala 1998: 611; Bodansky 1993: 458). Albin (1999) and Betsill and Corell (2001) examine the increasing importance of non-governmental organisations as global eyes and ears and have developed a framework to aid in understanding the non-state actors' influence on the formulation of international climate politics. Literature looks at the indirect influence of NGOs on influencing the international climate change issue through developing creative policy solutions, knowledge construction and lobbying (Hjerpe and Linnér 2010; Schroeder and Lovell 2012).

Scholars have historically traced political aspects of the evolution of the climate change agenda (Bolin 2007; Bodansky 1998). Bolin (2007) who was the first chairman of IPCC has extensively covered the role of scientists, negotiators and politicians and how they shaped the issue of climate change as a matter of concern in terms of global public goods. Bodansky (1998: 462-475) traces how discussions on climate change look at specific political aspects of developed countries' responsibility of causing climate change and the needs of developing countries in terms of socio-economic development. In terms of political discussions on climate change involving states, scholarship points to the north-south contentions on climate change in multilateral processes (Caparrós *et al*. 2004; Hurrell and Sengupta 2012; Roberts 2011). On the other side, scholarship has also argued that North-South tensions while being present, has not determined many outcomes in the climate regime. Scholarship has also underscored that unique concerns of developing countries are constantly being challenged through concerted efforts at the negotiating arena which have aimed at diluting the core principles such as common but differentiated responsibility and equity (Dasgupta 2012; Ghosh 1993; Najam *et al*. 2003). On the other side, scholarship focusing on climate change as an international issue has also critically assessed the limitations of climate change as a result of differing priorities by member states which have not led to fundamental reforms due to sovereignty concerns (Bush and Harvey 1997; Dubash *et al*. 2013; Sewell 1996). This line of scholarship views that climate change as an international issue is influenced by economic policies and electoral interests of the member states which can be a significant factor to hinder international climate change commitments.

United Nations and Climate Change

Literature points out that since the 1980s, United Nations has played a role in facilitating processes involving both, state and non-state actors which in turn has contributed towards specific principles, norms, legal protocols and institutional processes (Breidenich et al. 1998; Bodansky 2001; Keohane and Victor 2011; Sands 1992; Von Stein 2008). These scholars examine the role of the United Nations on the issue of climate change within the framework of liberal institutionalism. Scholarship highlights the role of the United Nations as a platform and facilitator for enhancing understanding and cooperation around the issue of climate change (Bodansky 1993; Dasgupta 2012; Mintzer and Leonard 1994). Literature focuses on the significance of the United Nations processes played a role in shaping the discourse of climate

change and in generating national level responses (Bodansky 1993; Dubash et al. 2013; Panjabi 1992; Tompkins and Amundsen 2008).

Literature on United Nations and climate change points out of the significance of the role of non-state actors in global governance processes especially epistemic communities and scholars, or the third United Nations, where experts have been instrumental in terms of exerting influence through research and policy analysis (Adler and Haas 1992; Haas 2002; Haas 2004; Young 1994). The Intergovernmental Panel on Climate Change which was established in 1988 by the United Nations Environment Programme and the World Meteorological Organization drew on the knowledge of eminent academics and scientists about climate change as an existential threat and helped in building not only a solid scientific consensus but also served as being significant to forming the scientific basis of climate change negotiations (Bolin 2007; Burton *et al*. 2002; Haas 1992; Hecht and Tirpak 1995). Given the trans-boundary aspects of climate change, authors argue that epistemic community has played a significant role by reinforcing constructivist functions of the United Nations in global governance processes by mobilizing other non-actors and advocacy groups, in turn, influencing both second United Nations and first United Nations (Haas 2002; Kittikhoun and Weiss 2011; Young 1994). Literature is pessimistic about the role of intergovernmental scientific bodies argues that UN bodies like IPCC have produced ambivalent knowledge as striving for legitimacy has been at the cost of compromising the policy specificity and too weak initiate an active global environmental policy (Agrawala 1999; Boehmer-Christiansen 1994a; Boehmer-Christiansen 1994b).

Studies have also examined the role of NGOs not only regarding influencing intergovernmental processes but also in terms of influencing the climate-related mechanisms of the United Nations (Gulbrandsen and Andresen 2004; Newell 2006; Raustiala 1997). On the other side, scholars have also pointed out that despite the increased presence and activism of NGOs, their participation in the United Nations negotiating forum remains largely unofficial and is subjected to the preferences of national governments hence limits their influence (Albin 1999; Fisher 2010).

The literature points on to that the United Nations has provided a forum to address concerns around equity such as specific needs of developing countries and other coalitions (Burns 1997; Chasek 2005). On the other hand, some scholars are of the opinion that the climate

change at the United Nations is representative of inequity rather than systems of governance based on democracy equality and justice (Agarwala and Narain 1991; Agarwala et al. 1999). Literature also points to the limitations to the efficacy of United Nations to address climate change as in the post-cold war period; UN has further deepened the demarcation between market and non-market strategies which is untenable given the embedded-ness of markets in contested social and political structures (Chesterman et al. 2005). Literature-based on critical theory applies the neo-Gramscian framework to United Nations climate change negotiations points to the importance of political struggles within civil society which continues to challenge the legitimacy of markets and corporate autonomy (Levy and Egan 2003; Levy and Egan 1998; Levy and Newell 2002).

Origin and Characteristics of Major Negotiating Groups

The Yearbook of International Organizations recognises OECD, Group of 77, OPEC and AOSIS as intergovernmental organisations (IGOs) (Union of International Associations 2017). The literature on these international organisations examines aspects of origin, efficacy and challenges faced by these IOs.

A body of literature traces the origin of Organisation of Economic Cooperation and Development to the purpose of advocating for economic interests of member countries in terms of reconstruction and trade (Warren 1998; Julin 2003). This international organisation originated in 1948 as an Organization for European Economic Cooperation (OEEC) to facilitate the administration of the Marshall Plan for reconstruction of Europe after World War II (Maier 1981; Wood 1986). During 1950s, the OEEC provided the framework for negotiations aimed at determining conditions for setting up a European Free Trade Area, to bring the European Economic Community of the OEEC members together on a multilateral basis and later in 1961 OECD was formed in order to stimulate economic progress and world trade (Christopher 1998; Julin 2003; Maier 1981; Warren 1998; Wood 1986). As of now, OECD describes its mission to promote policies that will improve the economic and social well-being of people around the world; the organisation posits itself to serve as a forum to work with member states on aspects of drivers of economic, social and environmental change (Organisation for Economic Co-operation and Development 2017). There is agreement among scholars that OECD's mandate has been dynamic and has evolved from being an organisation centred on economic issues to

accommodating for issues of climate change (Abbott 2012; Trondal et al. 2010). Scholars have studied the organisation from a different vantage. The scholars have also argued that the income inequalities have influenced the state capacity, namely fiscal, legal and collective capacity for a sample of 21 OECD countries over the period 1870–2013 (Bardhan 2005; Barrett 2005; Besley and Persson 2009, 2014; Besley et al., 2013). In terms of efficacy, critical viewpoints have argued that the rising economic inequality and diminishing role amongst the member states are becoming the central challenge for the said organisation (Besley 2015; Hays et al. 2005; Van der Wende 2007). Van der Wende (2007) highlights the challenges related to the internationalization of Higher Education. Hays et al. (2005) argue that postwar governments through the Organization for Economic Cooperation and Development (OECD), by and large, have committed themselves to pursue free trade through multilateralism, thereby undermining the role of the welfare state and hence compromising on socio-economic development.

Scholars have historically traced the root cause of formation of G-77 from the aspects of inequality and inequity between Global North and Global South stemming from the period of colonialism which aggravated due to factors such as lack of technology, inadequate financial resources and debt burdens (Kamga 2016; Swart 2011). These scholars have attempted to draw the line from the contemporary developments of the 1950s, in order to understand the initially drawn objective of G-77. In the context of the formation of G-77, Swart (2011) has argued that the South's greatest motivation to come together was based upon the increasing evidence that economic gap between rich and developing countries is not closing. Kamga (2016) also argues that the inequalities further increased in the cold war era due to bloc politics which resulted in the undermining of development issues in the newly independent countries in the Global South. G-77 was set up by signing the Joint Declaration of the seventy-seven Countries which was adopted in the first session of the United Nations Conference on Trade and Development (UNCTAD) (Group of 77 2017). The membership has increased to 134 countries; the original name is retained due to its historic importance (Group of 77 2017; Kamga 2016; Toye 2014; Dubey 2014). Scholarship has analysed the overall performance of G-77. Toye (2014) has argued that initially, G77 provided a unity for developing countries in their search for a more equitable regime of international regulation of trade, finance, and development. After 50 years, however, the Group is on different trajectories as the group's members are not able to keep the unity intact. Kamga (2016) has examined the extent to which G-77 could transform the global

relations for a just and fair world, and he argues that the there are some serious challenges that are being faced by G-77 in achieving the transformation of global relations for just world and major among them is emergence of various other groups containing members of G-77.

Scholarship has traced the purpose of the Organisation of Petroleum Exporting Countries (OPEC) to the activities of coordinating and unify the petroleum policies of its member countries to ensure the stabilization of oil markets to secure an efficient, economic and regular supply of petroleum to consumers, a steady income to producers, and a fair return on capital for those investing in the petroleum industry (Griffin 1985; Malkawi 2012). OPEC is an intergovernmental organisation of fourteen petroleum exporting countries, established in 1960, which serves the objective of coordinating petroleum policies among Member Countries. According to some scholars, OPEC has effectively facilitated cooperation on aspects related to energy pricing and energy security (Barnett 2003; Van de Graaf 2017). Critical analysis of OPEC also traces the politically motivated behaviour of the international organisation such as the Arab Oil Embargo including as serving as a cartel (Ahrari 2015: 2; Cairns and Calfucura 2012; Plaut 1981). This group of authors also put forth the viewpoint that OPEC members also undermined the socio-economic needs within countries and was not able to use the international organisation as a discussion forum for the same.

Scholarship which has dealt with the formation of AOSIS has traced the formation of the alliance to the motive of serving the interest of island and low lying states during the Second World Climate Conference (SWCC), 1990 (Ashe et., al. 1999; Heileman 1993; Boyd et, al 2008). The international organisation has worked specifically to serve the interest of its member states in the context of climate change as an island, and low lying states are the states which have contributed the least in terms of anthropogenic activities and are going to pay the most (Betzold 2010; Castro et, al. 2013; Searwar 1990). Authors have traced the concerns that these states lack enough financial and economic resources to respond to the adverse effects of climate change (Castro et al. 2013; Heilman 1993; Boyd et al. 2008). Scholars have also attempted to do an overall assessment of the said intergovernmental organisation. According to one line of scholarship, AOSIS has effectively voiced the concerns of these states in the negotiations of UNFCCC (ENB 1995; Davis 1996) and an initial member of INC Bureau (Heilemen 1993; Ashe et, al. 1999) and has managed to negotiate the concerns of island states in an effective manner.

Literature has also pointed out to the increasing fragmentation among its members as an underlying cause of its disunity in recent times (Betzold *et al*. 2012).

Negotiating Groups in Intergovernmental Negotiating Committee

In order to decipher the negotiating stands taken by these broad-based coalitions in INC, broader interests of negotiating groups have been understood, and scholarship has elaborated these coalitions. Literature looking at the Organization of Economic Cooperation and Development defines interests stemming from mainly economic issues with the later inclusion of environmental and social issues (Warren, 1998; Julin 2003).

In terms of the INC process, OPEC was very active in the negotiations of framework convention because of its suspicion that the policy measures to resolve climate change may hamper the economic interest of its member states (Barnett 2008; Bodansky 1993; Yamin and Depledge 2004)). AOSIS as the only coalition formed exclusively to resolve climate change issue has been very active in framework convention and also was successful in incorporating the demands of its members (Dupont 1996; Luterbacher and Sprinz 2001; Mintzer and Leonard 1994). This body of literature points that though the unity of the coalition has gone through a different trajectory under COP meetings, AOSIS negotiated very strongly and in unison during framework convention.

On the issue of climate change and UN, scholarship has focused on various actors such as member states, epistemic communities and civil society. However, there is very little literature which holistically analyses the role of United Nations in terms of processes involving major negotiating groups and resulting outcomes thereof. While there is literature which looks at individual member states or even coalition, a deeper analysis into the major negotiating groups will help in examining how UN can incorporate various actors in intergovernmental processes.

Definition, Rationale and Scope

In climate change negotiations processes at the United Nations starting with the INCs which led to the formulation of the UNFCCC, each member state is represented by a national delegation consisting of one or more officials empowered to represent and negotiate on behalf of their government. While every member state is out to further their own domestic interests, member

states have formed groupings by banding together to have a chance of being heard against the more dominant players.

In the context of the study, 'major negotiating group' can be defined as, "actors in climate change multilateral processes facilitated by the United Nations with a range of priorities and positions that represent substantive interests of member states. These actors seek to influence the outcomes of the United Nations by establishing common negotiating positions".

As the world is witnessing an upsurge in adverse effects of climate change, the public and political interest in climate change as an international political issue has also increased. Given that the principles of UNFCCC processes are significant even to current processes; it will be relevant to undertake an organisations study that seeks to analyse the negotiating processes at the United Nations. The study will help in better examining the role of the United Nations in a holistic manner which provides platform than is present in the current literature which has focused on the role of member states or individual groupings.

This scope of the study in terms of periodization is from 1990 to 1994. 1990 marks the formation of the Intergovernmental Negotiating Committee and 1994 marks the adoption of the convention in terms of coming into effect, which is on 21st March 1994. The scope of the study will remain limited to the processes of INC facilitated by the United Nations.

This research attempts to seek answers to the following research questions:

1. How has the UN played role in terms of facilitating multilateral processes involving bargaining by major negotiating groups?
2. What were the negotiating stands of major negotiating groups and individual countries in the INC negotiations?
3. How major negotiating groups influenced the negotiating process facilitated by UN at the INC leading to the outcome in the form of the United Nations Framework Convention on Climate Change?
4. How did the United Nations reconcile the interests of various major negotiating groups and whether UN provided a level playing field to the participants?

This research attempts to test the following hypotheses

1. The UN has been able to facilitate a process that has accommodated the positions of major

negotiating groups which is reflected in the United Nations Framework Convention on Climate Change.

2. The uncompromising attitude of the states vis-à-vis their national interests has made it difficult for major negotiating groups to influence the outcome in terms of specific national policy measures to be taken by member states for addressing the issue of climate change.

Research Methods

This study analyses the role of United Nations with respect to major negotiating groups concerning specific processes revolving around INC and the adoption of the UNFCCC. The study will examine UN as an organizationin terms of serving as a negotiating platform. Since the study is interpretive and exploratory in nature, the use of qualitative methods is justified. To understand UN interactions involving major negotiating groups with reference to the specific aspect of the INC negotiations and the adoption of the UNFCCC, document analysis in the proposed research will look at primary documents such as official statements and submissions these groups at the United Nations.

The study will use primary sources available on the website of the United Nations, including speeches, joint communiqués, interviews and press conference transcripts. The primary sources will pertain to UN processes related to INC and UNFCCC. Secondary literature is drawn from a wide range of academic books and journals, as well as reports of Think-tanks, NGOs and other reliable sources available on the internet. The Earth Negotiations Bulletin brought by the International Institute for Sustainable Development (IISD) will be a key source in terms of secondary literature.

This dissertation consists of five chapters. The first chapter introduces the concept and traces the background of the study. It also consists of research design such as literature review, rationale, scope, research questions, hypotheses and research methods. The second chapter is on "Climate change as International Issue". This chapter discusses the evolution of climate change issue from the scientific realm to the international political arena. The first part of the chapter elaborates the science of climate change. The concepts of climate change and climate variability are distinguished in this part. The second part of the chapter traces the evolution of awareness generation and sensitisation of climate change issue. The third portion of the chapter focuses on

the initiatives taken by the United Nations for making the climate change issue an issue of international political importance.

The third chapter is on "Major Negotiating Groups: Structures and Objectives". It elaborates the structure of objectives of the major negotiating groups. It also deals with the major aspects of climate change negotiations. In the last section, the chapter elaborates the negotiating stands taken by major negotiating groups in respect of the various aspects of the climate change negotiations. The fourth chapter is on "Negotiations at Intergovernmental Negotiating Committee: Inter-Group Bargaining". The first part of the chapter elaborates the structure of INC. The second and major part of the chapter discusses the bargaining among major groups. It is a detailed section on major negotiations that happened while negotiating UNFCCC. The third and the last portion provide the finalised content of the framework convention. The fifth chapter is the "Conclusion", and it basically summarises the major findings of the study, states how the research questions been answered and how the hypotheses been dealt with. It ends with final concluding thought and what research needs to be done in future.

Chapter 2

Climate Change as an International Issue

Introduction

Since the advent of the industrial revolution, the concentration of atmospheric carbon dioxide has been rising exponentially. Every year, humankind injects approximately six billion tons of carbon into the atmosphere from the burning of fossil fuels as well as by doing a good amount of deforestation (Bodansky 1993: 453). The activities of mass production, more specifically the industrial activities conducted by the industrially developed states have majorly contributed to the burning of the fossil fuels along with that they have also contributed to doing the deforestation. Both of these activities finally results in an increasing concentration of greenhouse gases in the atmosphere. Economic benefits of the industrial activities have reinforced the states' governments not only to continue but also to increase the scope of industrial activities. In addition to the developed world, the developing countries are also following the same path of development in order to serve and enhance their economic interests.

There are greenhouse gases like carbon dioxide in the atmosphere that absorbs the heat radiations and reradiate or reflect them back towards the earth surface. Major greenhouse gases in the earth's atmosphere are water vapour, carbon dioxide, nitrous oxide and ozone (Bodansky 1993: 453). The concentration of these gases was naturally balanced in the atmosphere before the industrial revolution. The presence of a balanced concentration of greenhouse gases kept the planet habitable; let it become neither too cold nor too hot to live in (Bodansky 1993: 454). Devoid of this natural balancing, the home planet would be starkly cold or hot and become uninhabitable. The effect of these gases on the earth's atmosphere was firstly studied by scientists in the last decade of the nineteenth century (Kellogg 1987: 114; Agrawala 1998: 606). In 1896, a study came out which calculated the effect of changing the composition of carbon dioxide on the planet's climate. This study concluded that the doubling of the carbon dioxide concentration in the atmosphere would lead to a rise in the earth's average surface temperature by 5-6 K (Arrhenius 1896). This made scientists to enquire or study more about the effects of these gases on global climate.

The equilibrium of natural greenhouse effect was disturbed at the dawn of industrial revolution; The Intergovernmental Panel for Climate Change (IPCC) regarded 1750 as the division of pre-industrial and industrial period (IPCC 1995: 4). The dawn of the industrial

revolution introduced the humankind to mass production of goods in industries by using coal as a fuel. So, coal began to be extracted from underground for burning in the factories. As a byproduct, coal produces an excessive amount of carbon dioxide, a greenhouse gas. With the growing number of factories, the concentration of carbon dioxide increased exponentially and disturbed the equilibrium of the natural greenhouse effect (Bodansky 1993: 456).

The Industrial revolution onwards, the human activities in the industrialised European countries, related to carbon emissions, affected the earth's climate in two ways. First, the land use got changed; the ratio of agricultural land use and industrial land use got affected. People in industrialised countries preferred factories over forests and agricultural fields. Thereby deforestation happened in these countries which finally resulted in a decrease in the number of trees. The deforestation wasn't a one- time activity it kept happening along with the industrial revolution. The trees work as natural carbon sink because they inhale carbon dioxide. As a carbon sink, they soak the excessive carbon dioxide from the atmosphere and keep the balance of greenhouse gases in the atmosphere intact. The decrease in the carbon sink contributed to the presence of more amount of carbon dioxide in the air which results in an increase in earth's surface temperature. Second, as already explained, the concentration of carbon dioxide gas in the earth's atmosphere got increased multiple times after the industrial revolution. The deforestation and increased carbon emission, these two parallel processes initiated by the humans for satisfying their respective economic interests, affected earth's climate and made it warmer. The carbon emissions and deforestation doesn't happen to be the activities of the past only as they continue to happen and affect the climate in the same way.

The Chapter elaborates the journey of the issue of climate change issue from the realm of scientists to the realm of political establishments. It is an attempt to explain how climate change issue got eminence among international political issues. This chapter starts with elaborating the science of climate change. The first section will deal with the scientific phenomenon that explains how the global climate is changing. The second section focus on the evolution of this issue, it journeys from scientists' realm to the political negotiating tables. The third and last section of this chapter traces the initial initiatives taken by the United Nations to address the issue of climate change. In an overall sense, this chapter answers, how climate change became an issue of international importance.

The science of Climate Change

Climate is defined as "the weather pattern that is expected to occur at any given time of the year on the basis of the statistics built over many years" (Burrough 2001: 2). It is also defined as "average weather, described in terms of the mean and other statistical quantities that measure the variability over a period of time and possibly over a certain geographical region" (IPCC 1995: 55). The climate patterns are influenced by many internal causes; that is to say, the causes that are naturally a part of the atmospheric processes of the climate system. Thereby the slight variations in these patterns are natural to occur (IPCC 1995).United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as "a change of climate which is attributed directly or indirectly to human activities that alter the composition of the global atmosphere and which are in addition to the natural variability observed over comparable time periods," (United Nations 1992; IPCC 1995).

This interpretation of climate change includes effects due to human actions as well as those due to natural causes (IPCC 1995). The scholars that belong to this camp of thought do not distinguish between the terms "climate change" and "climate variability". The one line written in an article magnifies the need for understanding these two terms and the process separately. The line is: "greatest barrier to public recognition of human-made climate change is the natural variability of the climate" (Hansen et al., 2011: 1).

Climate Change and Climate Variability

To understand the science of climate change, it is essential to be clear about the difference between climate variability and climate change. When the series of the annual average such as temperature or rainfall; or any other single parameter for that matter, observed over the years is a constant value even when they show extreme variable fluctuations at a given period, such climate pattern will be categorized as climate variability (Burrough 2005). In simpler terms, when the average value of the rainfall or any other single parameter, occurred annually, is calculated separately for each year, for a period of say three years, and the average value comes out to be somewhat similar if not constant, this kind of climate pattern will be called climate variability. Let us assume that the average rainfall in the year 2010, 2011, 2012 was 1000 cm, 1010 cm, and 1020 cm, respectively, at a particular place. This will become a typical case of climate variability though the same place might have experienced a fortnight of scanty rainfall in

2010 and a month of excessive rainfall in 2012, the similar annual average will put this case under the category of climate variability. The slight variations in the climate are very natural to occur. Exactly same kind of climate in a particular season, at a particular place, is extremely rare to be experienced continuously for some years. The variations in the climate can be caused by some internal factors such as a slight change in the concentration of naturally present greenhouse gases in the atmosphere.

The other category, climate change, can also be explained through similar assumption. Let's assume, the average rainfall in the year 2010, 2011, and 2012 was 500 cm, 1500 cm and, 1000 cm respectively, at a particular place. This case will fall under the category of climate change. When the average value of the rainfall or any other single parameter, occurred annually, is calculated separately for each year and the values show a significant difference, this kind of weather pattern will be called as climate change, not climate variability.

Before the industrial revolution, the concentration of these gases remained mostly unaffected thereby the increase or decrease in their concentration was never at extreme ends so was not the planet's temperature (Kellogg 1975). So, the pre-industrial revolution period experienced climate variability because of internal atmospheric causes. However, since the industrial revolution two human activities, namely deforestation and the carbon emissions from industries, resulted in a radical increase in the concentration of the carbon dioxide in the atmosphere, became external causes for climate change.

The advent of the industrial revolution proved to be a major watershed for the nature of human activities related to the manufacturing of goods. In pre-industrial period humans were generally accomplishing the manufacturing works at their respective homes through the manual labour using hand tools and basic machines that worked without any fuel. Since the industrial revolution, which began in the late 1700s in Britain, and was gradually stretched in neighbouring countries like France and Germany, the manufacturing works began to be done with specially designed machines. Moreover, the work places shifted to the factories from the houses. The production rate and output in the pre-industrial period were way lower than the production during the industrial age. The machines made humans capable of having "mass production". The manufacturing works in the other parts of the world had witnessed no change during this time. The industrial revolution happened in a limited region of Western Europe. It took a long time to reach the other parts of the world. The colonization made it a distant dream for the countries of

Asia, Africa and, Latin America; these countries were colonized by most of the West European countries (Kellogg 1987: 117).

The major difference between production of goods in the pre-industrial and industrial periods was that the specially designed machines of industrial period needed coal as a fuel to work and burning of coal resulted in the emission of carbon dioxide, a greenhouse gas, in the atmosphere. The effects of carbon emission on the global climate were not known at the beginning of the industrial revolution. They were identified much later. At the beginning of the industrial revolution, scientists were busy in bringing numerous applications of technology in order to ease the manual labour in various human activities and have a production of mass level. As the industrialization hadn't reached each and every part of the globe, the colonised world was still not industrialised. So, only the states of Western Europe were occupied with increasing their industrial capacity and were struggling to make a mark in the mass production and thereby increase their economic power. In between all this, the atmospheric consequences of rampant carbon emissions went completely unnoticed (Agrawala 1998: 607).

Evolution of Scientific Research on Climate Issue

The first scientific enquiry regarding the greenhouse effect began in the late nineteenth century, almost one hundred and fifty years after the advent of the industrial revolution. This study was carried out by Svante Arrhenius, a Nobel Prize-winning Swiss Chemist. He gave the theory of greenhouse effect in 1896. Though Arrhenius had identified the greenhouse gases and their infrared radiation trapping characteristics in his theory of greenhouse effect, the lack of experimental resources impeded the possibilities of the further research, and the scientists' couldn't trace the effects of the excessive presence of carbon dioxide in the atmosphere (Kellogg 1987: 115).

With the establishment of observatories in the late 1960s and early 1970s, it became possible to trace the concentration of carbon dioxide in the atmosphere. This led the further scientific enquiry of the atmospheric consequences of carbon emission happening because of industries related to human activities. Scientists studied the phenomenon rigorously and identified the difference between the naturally occurring climate variability and human-induced climate change (Kellogg 1987: 113; Bodansky 1993: 451).

The first scientist to propose that the gases in the atmosphere can block the heat radiations from escaping the space and reflect them towards the earth surface thereby make the earth surface warmer, was a prominent Frenchman, Jean Baptiste-Joseph Fourier. Fourier said that this effect was similar to the glass in a 'hothouse'. As Fourier lived between 1768- 1830, thereby he provided precedence to scientists like Arrhenius (Kellogg 1987: 113). After Fourier, John Tyndall in England measured the absorption of infrared radiation by carbon dioxide and water vapours in 1863 and demonstrated that these atmospheric constituents could raise the earth's surface temperature (Tyndall 1863). Consequently, by bringing the conclusions of earlier research together, Arrhenius gave the theory of greenhouse effect in 1896. This theory studied the effects of changing the composition of carbon dioxide on the global climate. Arrhenius concluded that the doubling of the carbon dioxide concentration in the atmosphere would raise the average surface temperature by 5-6 K, (Kellogg 1987: 115). Therefore, the conclusions of this study had kept no secret on what the greenhouse effect is and how it is going to affect global climate.

On the basis of the insights provided by Arrhenius, Thomas C. Chamberlin carried the study forward, and his study highlighted the significance of the oceans as a reservoir of carbon dioxide (Kellogg 1987: 116). After this, Roger Revelle and Hans Suess pointed out that the increased concentration of carbon dioxide, due to human activities would probably remain in the atmosphere for many centuries because of the slowness with which the oceans are absorbing the carbon dioxide (Revelle and Suess 1957). So, many of the important pieces of the climate puzzle were in place by 1900.

However, the idea that humankind could raise the earth's temperature, at first attracted very little attention from the scientists. The importance of this issue began to be recognised during the second half of the twentieth century. In 1958, Charles David Keeling started his continuous monitoring of carbon dioxide at the Mauna Loa Observatory in Hawaii and South Pole. These observatories gave a clearer picture of the rise of carbon dioxide concentration in the atmosphere from 1958 onwards (Keeling *et al.*, 1984: 4619). On the other side, the Conservation Foundation, an American NGO, stated in its report in 1963 that "a doubling of the carbon dioxide content of the atmosphere would produce a temperature rise of 3.8 degrees" (Conservation Foundation 1963). By this time many of the scientists had begun to focus on the

issue and study it. Carroll L. Wilson organised a distinguished Steering Committee to plan a study, which was later called as *Study of Critical Environment Problems* (SCEP). The SCEP took place for an entire month of July 1970 at Williams College, Massachusetts and, involved the participation of approximately 40 scientists and professionals coming from various disciplines. The major objective of SCEP, as stated in the preface of its report was "to raise the level of informed public and scientific discussion and action on global environmental problems," (Kellogg 1987: 120). Towards the end of this study, Wilson decided to organise a follow-up that would involve the international scientific community. The meeting held in July 1971 at a conference centre in Wijk, near Stockholm. The discussions in this meeting were more sharply on the question of climate change. The objective of this meeting was to provide an authoritative assessment of the present state of scientific understanding of the possible impacts on man's activities on the regional and global climate. The outcome of this conference was the report titled *The Study of Man's Impact on Climate,* (SMIC) (Kellogg 1987: 121).

The scientists were divided into two camps vis-à-vis future climate of the planet. The scientists studying carbon dioxide and greenhouse gases were arguing that the global climate will become warmer in the upcoming years if the carbon emissions remained unchecked. Whereas, the scientists studying atmospheric particles and aerosol argued that the global climate would witness the cooling effect in the future times. The line of thought for such argument was, the industrial and agricultural aerosol serves to both absorb and scatter the sunlight back to space. This would mean lesser sunlight is reaching the earth's surface and hence net cooling. Under such confusion SMIC Report didn't make a clear statement on warming or cooling effect but it fairly stated that "it is definitely within mankind's (sic) power to change the global climate, but there is no further indication of what will probably happen- just what could happen, and possibly with serious consequences," (SMIC 1971).

Generating Awareness and Sensitization of Climate Change Issue

Most of the climate-related scientific research, discussed above, happened first in the western countries. So, these countries were informed about the issue and brought the issue before the inter-governmental conferences to find a solution to the problem. On the other hand, developing counties had more immediate problems to deal with such as poverty, unemployment and development and so on. The issue of climate change was not a matter of their priority. Thereby they had prioritised many other issues over the Climate Change issue.

The 1970s marked the dawn of general awareness and sensitisation of the issue. Apart from many other efforts to generate awareness and sensitisation of climate change, the conferences, symposium and workshops played a prominent part. 1972 witnessed the first United Nations Conference on the Human Environment in Stockholm also known as Stockholm Conference. The developed and developing worlds were standing on different steps vis-à-vis industrialisation and the awareness about its impact on the global climate. As the developing world had just broken the chains of colonialism and set itself free, they were still occupied to resolve the serious issues that germinated during the period of colonisation. The problems such as poverty became their priority for them rather than the problems that were created by the developed world through their advanced economic activities.

Moreover the economic status of the developing states was lacking behind that of the industrialised countries. They also wanted to develop economically through industrialisation and by involving themselves in the trade of the finished goods. These views were expressed by them at the Stockholm conference. The discussion at Stockholm conference sharply displayed the sharp contest of the view of the developing countries from that of the developed countries on issue of environment.

One very significant outcome of this conference was the establishment of a new organisation, the United Nations Environment Programme (UNEP). The United Nations Environment Programme is the leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system, and serves as an authoritative advocate for the global environment. Its mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.

The second major effort for generating awarenss and sensitisation was the International Symposium on long-term climate fluctuations, 1975. The symposium held in Norwich, England and, it was sponsored by the World Meteorological Organization (WMO).The Global North and South were standing on different steps even in this symposium. The ratio of participation from these two blocs was starkly different. The attendance of the global north was very high in comparison to the attendance of the Global South. The difference in participation itself explains the different interests and priorities. The symposium revealed that low lying industrial aerosol

and other smoke particles absorb sunlight strongly and do not cause any cooling effect (Kellogg 1987: 122). This revelation made scientists to come on the same page and deliberate on the global warming issue. The countries from the Global North were keenly observing the debate and facilitating the scientists in order to study further on this issue. Whereas the countries of the Global South they were neither paying any attention to such symposiums nor facilitating any such research. The end of deadlock among scientists of the "cooling" or "warming" effect made the scientists more coordinated and stronger to take the issue of climate change from the realm of science to the realm of politics (Franz 1997: 1).

First World Climate Conference

First World Climate Conference of 1979 witnessed that the scientists were having consensus over the warming effect of climate change. It was organised by WMO in Geneva. Many scientists and bureaucrats attended this week-long conference. This happened to be the first conference attended by bureaucrats along with the scientists. Scientists were already doing efforts to simplify the global warming issue for the non- scientific communities like bureaucrats and politicians. This conference also proved itself to be such an effort. Since scientists had no disagreements among themselves, they all had accepted that the increasing concentration of greenhouse gases in the global atmosphere is making the earth's climate warmer. During this conference, scientists tried to put across the idea more strongly than ever before and make the bureaucrats understand the importance of this issue. Till this conference bureaucratic corridors were not holding any talks on climate change issue. They did not recognize the policy void on this issue. But, after the conference, it wasn't the same. Bureaucracy began sensitised the political establishments and made them to recognise the policy void on this issue area. As the participation of political leaders was not witnessed in this conference hence, it didn't make any call for policy action (Bodansky 1993). Rather, the statement of the conference called for "significant social and technological readjustments," to combat the "adverse" effects of "climate change" (WMO 1979: 714). This statement also made a call to all the nations to unite in efforts to understand climate change and to plan for combating it. In his keynote address, Robert White, the chair of the conference, noted that "the Executive Committee of the WMO has specifically asked this Conference to recommend whether a conference at the ministerial level should be convened to take necessary international actions" (WMO 1979: 8). The conference declaration

also called for the establishment of world climate programme under the auspices of WMO, UNEP AND International Council of Scientific Union (ICSU).

Consequently, the World Meteorological Congress, at its Eighth Session in 1979, established World Climate Programme (WCP) as an authoritative international scientific programme with goals to improve understanding of the climate system and to apply that understanding for the benefit of societies coping with climate variability and change. This programme proved itself truly prominent in building climate change agenda. Conference participants ultimately recommended more research, which would require coordination among international bodies. However, the declaration noted that "It is fully recognized that the international co-operation which is the prerequisite for any world climate programme can only be successfully pursued under conditions of peace" (WMO 1979: 716). The urge for making climate change an international political agenda can be captured in a statement made by Robert White, the Chair of the conference, "the Executive Committee of the WMO has specifically asked this Conference to recommend whether a conference at the ministerial level should be convened to take necessary international actions" (WMO 1979: 8). Thereby scientists and bureaucrats were looking forward to making politicians understand the urgency of this issue.

Villach Conference

Climate Change issue entered the realm of international policy-making between 1985 and 1988 (Franz 1987: 1). A series of international assessments were organized and carried out by ICSU, WMO and, UNEP in the early 1980s. As a result, political establishments of many countries especially in the global North began to be an audience of these assessments. Next major conference happened at Villach in 1985. It was the International Conference on the Assessment of the Role of Carbon Dioxide and of other Greenhouse Gases in Climate Variations and Associated Impacts. This conference added a new emphasis on certain already proved and accepted scientific facts. It reached a new set of policy conclusions and emphasised on the urgency of the issue (Franz 1997: 1). The deliberations of this conference were based upon the reports issued by a committee named, Scientific Committee on Problems of the Environment. These reports were eventually published as World Climate Programme reports (Franz 1997: 2). Villach Conference was a significant milestone to the journey of climate change issue from the realm of scientists' tables to the policy-making round tables. Scientists spoke equivocally and more certainly in this conference. They could do so because they had results of various

assessments in their hands, these assessments were done under the aegis of WMO, ICSU and, UNEP. Because of the certain scientific facts, a new set of policy actions were suggested in the declaration of this conference (Franz 1997: 3).

Along with this programme, a series of workshops were also organized by UNEP and WMO. These workshops were held in Villach, Austria and Bellagio, Italy in 1987. These workshops contributed significantly to making climate change an international political agenda. From these workshops, the experts concluded that "in the first half of the next century a rise of global mean temperature would occur which is greater than any in man's history," (WMO 1987). They also recommended that "scientists and policymakers should begin an active collaboration to explore the effectiveness of alternative policies and adjustments," (WMO 1987). Thereby the workshops requested the active collaboration between scientists and policymakers to make the climate change issue a political agenda. The global south hadn't taken any interests in these workshops, and it had kept itself out from the climate change debate. States like United State had insisted upon keeping climate change issue a scientific one not to let it enter the political realm.

In the period following the Villach workshops, the issue of climate change had captured the attention both in news media and on the international policy agenda. Although the efforts of scientists were overwhelmingly significant in making climate change an international agenda, the contributions by the pro- active efforts of international bureaucrats, media, literature, and 1988's summer drought and heat waves (Bodansky 1993: 461). The year of 1988 marked itself as a watershed in the emergence of climate change as international agenda. Until 1988, the issue was majorly dominated by non-governmental actors- more specifically, the environmentally oriented scientists. The government began to play a greater role. Countries began to sensitise the political bodies by hosting the conferences either individually, or collectively. These conferences set the stage for the political negotiations. They prepared the political establishments, made them aware and sensitized them over the interim details of the issue.

The Toronto Conference

Canada happened to be the first country to sponsor an international conference on Climate Change in Toronto from June 27 to 30, 1988. This conference popularly came to be known as the Toronto Conference. The Conference sought to bridge the gap between scientists and policymakers. It was conducted to facilitate the collaboration of scientists and policymakers for resolving the climate change problem. It was attended by more than 340 individuals from 46

countries (Bodansky 1993: 462). They attended the conference not on official capacities as a delegate of the respective states.

Nevertheless many of the governments' officials and political personalities from different states attended the conference in their personal capacities. The conference statement recommended as initial actions: (1) a twenty percent reduction in global carbon dioxide emissions by the year 2005; (2) development of a comprehensive global framework convention to protect the atmosphere; and (3) establishment of a World Atmosphere Fund partly financed by a tax on fossil fuel consumption in industrialized countries (WMO 1988). In many respects, the Toronto Conference Statement was the high water mark of policy declaration on global warming; thereby the conference got an unavoidable status and had a positive influence on the overall campaign, in comparison to all the previous workshops. Many themes that appeared in Toronto took prominence in the Intergovernmental Negotiation Committee (INC) which was established to negotiate a framework convention for climate change, in 1991. Some of those themes include "main responsibility" of industrialised countries to take steps to address climate change and, the need for transferring technology and financial resources from developed to developing countries (WMO 1988: 295).

The conferences held hereafter received more political participations and outcome documents were very carefully drafted after reaching agreement among participating members. After Toronto Conference, the issue continued to attract a great amount of attention, and gradually the discourses on climate change become an agenda for discourse and negotiation at various inter-governmental organisations and multi-lateral forums. The IPCC was established in 1988 under the auspices of the United Nations. It is an intergovernmental body, established in order to undertake the scientific studies related to the Climate Change issue and keep the international as well as national political establishments informed about the scientific aspects of the climate change.

Hamburg Conference

According to McGourty (1988), the debates at the Climate and Development Conference, held in Hamburg were fuelled by the results of studies on the effects of rising temperature on the resources such as water, energy, agricultural resources. The conference called for concrete international action in order to control the global temperature changes but also cautioned about

the political tussle among stake holding countries to be an obstruction in building international consensus (McGourty 1988: 194). The discussions revolved around the means of decreasing greenhouse gases emissions. The plans were formulated for making government policies in order to curb greenhouse gases emissions. The need for not ignoring the economic factor was also realised by the delegates during the conference. The participants also resolved to do additional research, based on the impacts on the economy and society of each nation.

This conference held in parallel to the first meeting of IPCC hence it did not receive much of political delegations. The non- governmental organisations participated in this conference. They undermined the significance of the first meeting of IPCC. As the newly established IPCC happened to be the main source of scientific information on climate change for government policy makers, the meeting was significant for policymakers. All eyes were set on the minutes of this meeting hence Hamburg Conference faded into obscurity (Bodansky 1993: 463). The outcome document of this conference didn't matter. The Conference was largely overshadowed by the IPCC meeting.

Hague Conference

In 1989, Netherlands, France, and Norway jointly sponsored a conference in Hague on global environmental issues. This conference was attended by 24 country representatives including 17 heads of governments. This conference was attended by the state representatives from the states of the global south (Bodansky 1993: 466). This conference witnessed not only sharp division between Global North and Global South but also division within Global North. Since the early 1980s, division within Global North was visible. The US was initially actively coordinating and facilitating scientific research on climate change, but it emphasised the potential economic costs of the response measures (Agrawala 1998: 608). The economic cost for the US was supposed to be the highest as it is the largest carbon emitter in the world (Bodansky 1993: 457). The US argued for further scientific research, whereas other western countries prioritised curbing greenhouse gas emissions over the economic dimensions.

The Hague Conference Declaration was a very radical document it suggested to establish a "new institutional authority" to preserve Earth's atmosphere and combat global warming (Bodansky 1993: 466). Its decision making the procedure of the proposed new international authority invited criticism of the declaration from the majority of the countries; as it called for non- unanimous decision making which means a partial renunciation of sovereignty. Hence the

declaration was widely criticised and quickly ignored. Still, this Conference announced the new dawn for climate change issue, as it received large participation from political bodies and made it clear that the climate change is new international political agenda.

Though the declaration of this conference was not readily accepted because of its language and the prescribed decision making procedure bur it surely generated a debate around the issue of climate change. It further generated debate about the other alternative approaches to resolve the climate change issue. Global South hadn't shown its cards even at this conference. The fissure among Global North, namely the US and other Northern states became visible in this conference hence South didn't debate its developmental stake here.

This conference happened in March 1988, and it was followed by some other intergovernmental summits such as Group of Seven (G-7) Economic Summit and Non- Aligned Movement (NAM) Summit. The issue of climate change was discussed in these summits even when it was not a part of their respective mandates. The G-7 Summit of July 1989, the leaders of seven most industrialised countries "strongly advocated common efforts to limit emissions of carbon dioxide and other greenhouse gases" and they also endorsed the concept of the "framework convention" on climate change (Bodansky 1993: 466). During Belgrade Summit of Non- Aligned Movement (NAM) in the same year, the issue again captured the attention.

Noordwijk Ministerial Conference

The conference was convened by the Netherlands in 1989, and it was attended by the delegates from sixty-six countries. For the very first time, the participation received for the conference was roughly equal from both, developing and the developed world. This was the first high-level political meeting focusing exclusively on the climate change issue. The outcome document of this conference was carefully thought and cautiously written (Bodansky 1993: 525). The cautious way of writing the declaration adhered in order to avoid the situation that became after the Hague conference; the criticism from many states affected the influence of the convention negatively. This declaration managed to reflect the international and domestic political stakes of the states for curbing the climate change or resolving the climate change issue. It also set forth the general aim of limiting or reducing emissions and increasing sink for greenhouse gases to a level consistent with the natural capacity of the planet, within a time frame sufficient to allow ecosystems to adapt naturally to climate change. So it neither carved out a concrete target for reducing the carbon emissions nor did it fix the timeline. Though the declaration recognised the

North-South dimension of global politics, still there was a deep reluctance in the developing world to prioritise the climate change (Bodansky 1993). Participants at Noordwijk perceived that although developing countries would need additional time and financial resources to reduce emissions and enhance sinks, they should also be subjected to the requirement of reducing emissions and enhancing sink in order to combat the climate change. However, the reluctance of Global South in giving enough attention to climate change kept the North-South fissure in the dark during Noordwijk Conference. As the South had prioritized differently and was not ready to share its perception. What captured the limelight after the conference, were the differences among the Developed countries. Their differences were around the issue of keeping climate change in the scientific realm or making it an issue of international political agenda. The United States wanted to keep this issue within the scientific realm whereas the European States were pushing for making the issue an issue of international political agenda. These differences became visible during this conference. Due to the intra- North fissure, the outcome document had no mention of the quantitative limits of the carbon emissions and no concrete timeline. Instead of mentioning a concrete timeline, the declaration mentioned the need for industrialised countries to stabilise their greenhouse gas emissions "as soon as possible," (Noordwijk Conference Report 1989). The opposition for finalising the concrete limits came largely from US, Soviet Union and Japan (Bodansky 1993: 468). These counties prevented the conference from setting up a level of emissions at which stabilisation should occur; a "target", and a specific date for stabilisation; a "timetable".

Second World Climate Conference

Few months before the Second Climate Conference, IPCC came up with its first assessment report and clearly wrote, if the states continue "business as usual", the global mean temperature will rise during the next century by an average of 0.3 degree Celsius per decade- a rate of change unprecedented in human history (IPCC 1990). The report greatly alarmed the states on the eve of the Second World Climate Conference (SWCC) which was held in November 1990 under the auspices of United Nations General Assembly. It wasn't the IPCC report that made the UNGA convene the conference. IPCC report only played the role of a catalyst for the course of the conference; in a way, it made the participants to realise the urgency of the situation.

States agreed to negotiate the convention on climate change in this conference. The small Island States argued collectively during this conference and compelled other states to understand

their victimhood. However, nothing much progressed in SWCC regarding concrete targets and timetable. Moreover, this was the very first time that the Global South spelt it very clearly that the developmental issue cannot be sidelined from the climate issue. They also added climate issue couldn't be magnified by using only one lens, by this, they indicated towards the scientific lens. They further added the developmental cause needs to be kept on equal footing if the North wants the South to join it on the negotiations table.

The agreement of the majority of the states was received in this conference to formulate the framework convention under the aegis of the United Nations, in the aftermath of this conference, the speaking up of the Global South about its concerns of not avoiding developmental cause made the North-South fissure explicitly visible. This conference also brought out the intra- South differences; the oil-producing countries argued for "go slow" approach because of their selfishly major economic interests and, on the other hand, the low lying states and small island countries feared of the adverse effects of sea level rise and cried for the immediate mitigating response (Bodansky 1993: 471).

Initial Initiatives of the United Nations

The first initial step that was taken under the banner of the United Nations was the Stockholm Conference of 1972, which has been discussed under the heading of sensitisation. It was attended by many of the United Nations member states. One very significant outcome of this conference was the establishment of a new organisation, the United Nations Environment Programme (UNEP). This organisation is devoted to the preservation of the global environment. During the first decade of 1970s scientists were having a debate among themselves regarding the warming or cooling effect of greenhouse gases emissions on the global climate. This debate didn't come to an end during the Stockholm Conference. There was a deadlock among scientists over the issue of "warming" or "cooling" effect in the climate during this conference (Kellogg 1987: 115).

In terms of the deliberations within the United Nations, climate change as an issue was deliberated in United Nations General Assembly (UNGA) for the first time in September 1988. Malta took the initiative of proposing for consideration by the Assembly the item entitled "Conservation of climate as part of the common heritage of mankind". After the detail discussion, the UNGA passed a resolution which recognised the "climate change is a common concern of mankind since climate is an essential condition which sustains life on earth." It also

states that "necessary and timely action should be taken to deal with climate change within a global framework (UN Document 1988b).

Another initiative undertaken by the United Nations was the establishment of the Intergovernmental Panel on Climate Change (IPCC) which is the international body for assessing The science related to climate change. It was established in 1988 by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP) to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation (IPCC, n.d.). It was the first institutional mechanism that was supposed to deal with climate change.

In December 1989, the UN General Assembly adopted a resolution titled "*Protection of Global Climate Change for Present and Future Generations of Mankind",* supporting the UNEP decision to begin preparation for the negotiations (United Nations 1990).

The next major event was the Second World Climate Conference of November 1990, which was also organised by two of the UN specialised agencies along with International Council of Scientific Unions (ICSU) with the objective of increasing the knowledge base vis-à-vis climate change. This was one of the biggest governmental meetings that focused on the climate issue, before the Rio Summit. This was the first meeting in which developing states participated in equal numbers and on equal say. Unlike the First World Climate Conference, this meeting was attended by scientists and politicians. The agenda of the meeting consisted of a political and scientific component of the climate change issue. As the momentum was already building towards the negotiations of the convention, this conference became a rehearsal hall for future negotiations. By this, the prominence of the North-South issue for the negotiations became very clear (WMO 1979). The Ministerial declaration of this conference emphasised upon the need to stabilise emissions of greenhouse gases but didn't mention any fixed level of stabilisation to be achieved; the declaration urged the developed countries "to establish targets and feasible national programme or strategies" (SWCC 1990: 535). By the end of the conference, it became very clear that the negotiations on climate change would not be restricted to climate. On the insistence of the developing countries, it became very clear that the developmental cause would take a central stage during the negotiations on a convention on climate change.

United States had played its every possible bit in impeding the process to reach negotiating tables. US continued its efforts even when the stage was all set. The United States was doing so

in order to safeguard its very own selfish economic interest. The US cleverly tried to create a separate legal group for questioning the need for negotiations on climate change and, arguing for more scientific study instead (Bodansky 1993: 472). After facing the intense international pressure, the United States revised its position and declared in May 1989 that it would support negotiations of a framework convention on climate change. After some time, UNEP Governing Council adopted a resolution requesting UNEP to begin preparation for the negotiations. In December 1989, UN General Assembly adopted a resolution supporting the UNEP decision to begin preparation for the negotiations.

On the other hand, United States didn't stop its indirect attempts of delegitimising the need for a convention, in its capacity as chair of IPCC's Response Strategies Working Group it organised a multi-disciplinary workshop on implementation measures the workshop was attended by representatives from forty-three governments. Participants recognised the inadequacy of existing legal instruments and reiterated the need for a framework convention on climate change designed following the format of the Vienna Ozone Convention (Bodansky 1993).

In September 1990, UNEP and WMO convened an open-ended ad hoc working group of government representatives to decide the ways, means, and modalities for the negotiations (Bodansky 1993: 473). The group recommended that a single negotiating process should be established to discuss both policy issues and legal instruments. However, the agreement couldn't be reached on the issue of negotiating protocols. Participants had diverged views on, whether the protocols should be negotiated along with convention or not. The participants were having major disagreement among themselves on who should organise and conduct the negotiations. The group of developed states wanted the negotiating committee to work under the auspices of WMO and UNEP. Whereas, the developing countries wanted the negotiations to happen under the umbrella of UN General Assembly, through a special conference.

The developing countries saw climate change as a developmental issue rather than an environmental issue, as already discussed. They were not assured of whether their concerns would be addressed by a negotiating committee that would work under the auspices of WMO and UNEP. That is why they wanted the issue to be negotiated by a political body like the UN General Assembly (Bodansky 1993).

In December 1990, during the forty-fourth session, UN General Assembly stated in a resolution that the UNGA was "the appropriate forum for concerted political action on global environmental problems". During the same session on December 21, the General Assembly adopted another resolution to establish the INC as "a single intergovernmental negotiating process under the auspices of the General Assembly" (United Nations 1990). Thereby, the Intergovernmental Negotiating Committee (INC) was formed under the auspices of UNGA. The position taken by the developing world was implicitly accepted by UN General Assembly and kept the INC under its supervision. However, WMO and UNEP were invited to make "appropriate contributions" to the negotiating process, the resolution also called for the establishment of the ad hoc secretariat (United Nations 1990).

Conclusion

Since the advent of the industrial revolution, the concentration of atmospheric carbon dioxide has been rising exponentially. Every year, humankind injects approximately six billion tons of carbon into the atmosphere from the burning of fossil fuels as well as by doing a good amount of deforestation. The activities of mass production, more specifically the industrial activities conducted by the industrially developed states have majorly contributed to the burning of the fossil fuels along with that they have also contributed to doing the deforestation. Both of these activities finally results in an increasing concentration of greenhouse gases in the atmosphere.

The Industrial revolution onwards, the human activities in the industrialised European countries, related to carbon emissions, affected the earth's climate; the land use got changed, the ratio of agricultural land use and industrial land use got affected. People in industrialised countries preferred factories over forests and agricultural fields. Thereby deforestation happened in these countries which finally resulted in a decrease in the number of trees. The deforestation wasn't a one- time activity it kept happening along with the industrial revolution.

Climate change as a human induced phenomenon began to be studied in late nineteenth century. It was almost a century later than the industrial revolution. The emissions of greenhouse gases had already affected global climate in many ways. The study of greenhouse effect was not supported by laboratory data hence it failed to attract much attention. The phenomenon was studied in greater detail when observatories were established to study it. Observatories were established in late 1960s and early 1970s. After this it became possible to trace the concentration

of greenhouse gases in the atmosphere. This triggered further scientific enquiry around the question of global climate change.

After the establishment of the observatories scientists gave much importance to the study of the climate issue. Scientists were divided into two camps vis-à-vis future climate of the planet. The scientists studying carbon dioxide and greenhouse gases were arguing that the global climate will become warmer in the upcoming years if the carbon emissions remained unchecked. Whereas, the scientists studying atmospheric particles and aerosol argued that the global climate would witness the cooling effect in the future times.

The 1970s marked the dawn of general awareness and sensitisation of the issue. Apart from many other efforts to generate awareness and sensitisation of climate change, the conferences, symposium and workshops played a prominent part. 1972 witnessed the first United Nations Conference on the Human Environment in Stockholm.

The efforts towards sensitization and awareness generation were done through international symposiums, conferences and, meetings. Scientists came on the same page and agreed that the increasing concentration of greenhouse gases will cause a warming effect on earth's climate. Hereafter scientists began their efforts to sensitize the political establishments regarding the issue. First such effort was First World Climate Conference. Though it received very less political delegates but it marked the beginning of the sensitization and generating awareness around the issue of climate change. Many conferences such as Villach Conference, Toronto Conference, Hague Conference and, Noordwijk Conference were held hereafter. These conferences gradually made climate change a political agenda. The other landmark in establishing climate change as political agenda was formation of IPCC.

The United Nations has also taken steps to make climate change a political agenda. It did so for the first time in 1988 when it passed a resolution entitled "Conservation of climate as part of the common heritage of mankind". Another initiative was taken by UN by establishing IPCC in 1988 itself. The major initiative taken by United Nations was establishment of INC in order to formulate the framework convention on climate change. The INC operated under the auspices of UNGA, UNEP and WMO and framed United Nations Framework Convention on Climate Change (UNFCCC).

Chapter 3

Major Negotiating Groups: Structures and Objectives

Introduction

United Nations Framework Convention on Climate Change (UNFCCC) was negotiated between February 1991 and May 1992 in five sessions at the Intergovernmental Negotiating Committee (INC). All the member states of United Nations were welcome to participate in the negotiations of the framework convention. It was not only the member states but also the Non- Governmental Organizations (NGOs) participated in the process of negotiations. The NGOs concerning businesses and environment participated in the negotiations process (Mintzer and Leonard 1994: 22). The process of negotiations was kept as open, transparent, and participatory as possible. But the main negotiators were the states and they negotiated a complex international agreement without any sufficient preparatory negotiations, in a time bound manner (Dowdeswell and Kinley 1994: 118). Surprisingly the states did so successfully within the time limit as instead of each individual state presenting its position, the states presented their position through a number of negotiating groups. These negotiating groups increased the manageability of negotiations. The groups such as European Community (EC), Canada, Australia and New Zealand (CANZ), Nordic Council, Organisation for Economic Co-operation and Development (OECD), G-77 and China, Organization of the Petroleum Exporting Countries (OPEC), Alliance of Small Island States (AOSIS), Kaula Lumpur Group were the groups that coordinated countries positions around major negotiating agendas (Kjellen 1994: 158).

Although all these groups played role in the process of the negotiation and drafting of the convention, this study intends to focus on the four groups as there were major divergence of their positions and bargaining took place among them to reach a compromised text of the convention. The four groups are G-77 and China, OECD, OPEC, and AOSIS. The Global North countries'position was coordinated by OECD in major part of the negotiations. Though Global South countries had divergence within themselves, they decided to come under the collective umbrella of G-77. China also joined the G-77 for negotiating in INC. The countries from the Global South had made it clear even before joining the negotiations that the question of climate change can't be resolved without considering the question of economic development in

developing states (Dasgupta 1994: 135). They were not ready to negotiate climate change at the cost of their respective economic development. Hence the prevailing question of financial and technology transfer gained the currency even before the formal negotiations began. With this, the bargaining by OECD and G-77 concerning financial and technology transfer became important for negotiating the final document.

The chairperson of G-77 was the formal negotiator on behalf of developing states. Though there was divergence within the developing states, they decided to work together as a negotiating group to protect the collective interest vis-à-vis the countries of the Global North. This unity among the developing countries couldn't be kept beyond the third session as internal fissure developed on the question of commitments. The oil-producing states had an interest in flexible commitments on targets and timetable whereas small island states wanted to negotiate strong commitments as climate change has become an existential threat for them. Countries like India and China, who are developing very quickly, wanted G-77 to take a middle stand. This made G-77 set free its members for putting forward any proposals on the negotiating tables. G-77 formally retreated from negotiating on behalf of developing states in the fourth session. Hence OPEC and AOSIS also became separate groups for negotiating the convention.

The chapter will open up discussing the major negotiating groups; their structures, roles and objectives. The structures of the major groups will be dealt in great detail in this section. Then it will delve into the major issues of negotiations of framework convention. All major aspects concerning the negotiations of the framework convention will be discussed in this section. The third section will elaborate on the initial negotiating positions of these groups. The fourth and last section will be a concluding remark.

Major Negotiating Groups: Structures, Objectives

Among these four major groups selected for the focus of this study, OECD, G- 77, and OPEC were not formed only to negotiate climate change. They were formed way earlier in a different context and were having a specific objective. AOSIS was the only group that was formed exclusively for negotiating the climate change on behalf of the small island states. So it had solely devoted itself to get strong commitments which can facilitate combating climate change.

Organisation for Economic Cooperation and Development (OECD)

The forerunner of the OECD was the Organisation for European Economic Co-operation (OEEC), which was formed on 16 April 1948 to administer American and Canadian aid under the Marshall Plan for reconstruction of Europe after World War II. The OECD was formed in 1961 by 18 European countries plus the United States and Canada. The initial objective of this organization was to "build strong economies in its member countries, improve efficiency, hone market systems, expand free trade and contribute to development in industrialised as well as developing countries" (OECD, n.d.). By now, this organisation has 36 members and its headquarter is located in Paris, France. Most of its member states are high- income economies and are regarded as developed countries. In terms of its institutional structure, OECD consists of a council, the committees and a secretariat. The council is the highest decision-making body of the organization. The council includes one representative from each member state of OECD along with that it also has one member from the European Union. The council meets regularly at the level of its permanent representation and decisions in council are taken through consensus. It also meets annually at the ministerial level. Its meetings are chaired by the Secretary- General of OECD. The ministerial-level meeting sets the priority list for the organisation and it also discusses key issues. The second and most deliberative part of the OECD structure is formed by its committees. These committees are formed in order to advance the ideas and review the progress of any specific policy area of the organisation. Some of the prominent policy areas of the organisation include economics, trade, science, employment, education and finance markets. The representatives of all the members meet in these committees to deliberate on the assigned policy area.

As OECD takes decision by consensus, gives equal rights to all its member states, but states cannot block a decision individually if the decision is agreed and accepted by the majority of the states. So under such process of making decision, no state can control the organisation individually. The consensus-based decision-making has kept the organisation responsive enough as it can easily adapt in accordance with the global political environment (Moravcsik 1998; Haftel and Thompson 2006). OECD member countries worldwide usually identify problems, discuss and analyses them, and decide on policies to solve them.

Group of 77 (G-77)

The Group of 77 consists of the member states from the developing world. The group got its name from the number of founding members though as of now the number of members has exceeded to 134. It was formed on 15 June 1964 by seventy-seven developing countries by signing the "Joint Declaration of the Seventy- Seven Countries". It is the largest intergovernmental organization of developing countries in the United Nations. The organisation provides the means for the developing countries to articulate and promote their collective economic interests and enhance their joint negotiating capacity on all major international economic issues. It also promotes South-South cooperation (The Group of 77, n.d.). The institutional structure of the group has evolved over the time in accordance with the needs of the global political environment.

The Joint Declaration (1964) unfolds the joint negotiating position of developing countries vis-à-vis international economic order. However, it remains silent on the issue of organisational infrastructure of the group. The first document to spell a word about the organizational infrastructure was the Charter of Algiers, 1967. It recognised the importance of preparing for the UNCTAD sessions by holding the ministerial- level meetings. It says "Group of 77 should meet at the ministerial level as often as this may be deemed necessary, and in any case always prior to the convening of sessions of the United Nations Conference on Trade and Development, in order to harmonize the positions of developing countries and to formulate joint programme of action in all matters related to trade and development" (The Group of 77 1967). The Chairman, who acts as its spokesman, coordinates the Group's action. The Chairmanship, which is the highest political body within the organizational structure of the Group of 77, rotates on a regional basis (between Africa, Asia-Pacific and Latin America and the Caribbean) and is held for one year (The Group of 77, n.d.). The group has maintained a high level of flexibility in its organisational infrastructure (Sauvant 1981). It has evolved its institutional set up with the time and its needs. Though the group has successfully coordinated among its member's states from all regions, it still lacks an organizational setup, as it is working without any headquarter. The decisions in the Group are taken by following consensus-based voting.

The formation of the institutional structure of the group is closely linked with the United Nations Conference on Trade and Developments (UNCTAD) conferences. The first ministerial meeting of G-77 happened in 1967. The Charter of Algiers was signed in this meeting and Preparatory Committee was also formed for the preparation of the second ministerial meeting. The second Ministerial meeting itself was preparation of UNCTAD- III, 1972 (Sauvant 1981). Preparatory Committee consisted of the core membership. This membership was equally divided among three groups they are, Asia, Africa, Latin America. So the principle of equal regional representation was followed from the very beginning in this group.

The Bureau of the preparatory committee was formed in the fourth ministerial meeting. It consisted of the Chairperson, a Vice Chairperson and, a Vice-Chairperson cum Rapporteur. These three appointments were decided to be done by following the principle of rotation (Sauvant 1981). The main functions of the preparatory committee were: 1) to consider all questions related to the administration and organisation of the ministerial meetings. 2) Prepare a substantive document for the ministerial meeting. The report of this preparatory committee was supposed to be submitted to the Ministerial meeting and three regional committees. The regional committees analyse the report in order to frame its respective positions for the final document of the ministerial meeting. Eventually, they frame their respective reports and these reports are also submitted to the ministerial meeting. The ministerial meeting analyses four reports to frame its final document. These four reports are 1) report of preparatory committee 2) report of the Asian Group 3) report of African Group 4) report of Latin American Group.

The ministerial meeting is the supreme organ of decision making in the group as per the terms of references laid down under the Charter of Algiers. It basically harmonise the positions of developing countries, formulates the joint programme of action in all matters related to trade and development, outlines the strategies to be pursued and adopts a specific negotiating position on behalf of G-77 (The Group of 77 1967). The Bureau of ministerial meetings consists of a President, ten Vice Presidents and one Rapporteur- General. The election of Bureau member is being done according to the principle of equal regional representation and rotation. The ministerial meeting appoints various committees in order to draft the outcome document. As the group was majorly concerned with the negotiating strategy and negotiating position of the member states in UNCTAD conferences so, the structure was designed only to prepare for these

conferences and to empower the developing states in their negotiating capacity, the attempt of doing so is visible. With the time the group has begun to deal with many issues other than the issues related to economic development and trade. So as of now, the group operates in various chapters, but all chapters have minimal common features such as membership, decision- making and certain operating methods. The Chairman of the G- 77 coordinates the group's action in each chapter.

So, the group has followed the principle of rotation from the very beginning. It elected chairperson and vice chair- person of the Bureau of preparatory committee and many other important positions by following this principle. It also followed the principle of equal representation of the region, in the core committee there was the representation of ten members from all three regions. The group has maintained the democratic procedure of taking its decisions. The reports submitted by the preparatory committee and regional committees have influenced the report of the ministerial meeting. Moreover, it followed the consensus-based Decision-making process. The Group of 77 produces joint declarations, action programme and agreements on development issues. G- 77 produces these declaration, action programme and agreements under the name of "G- 77 and China" as china participates in all G- 77 processes but does not consider itself as a member of G- 77.

Organisation of the Petroleum Exporting Countries (OPEC)

The intergovernmental organisation was found in 1960 by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. These five countries were the Founder Members of the Organization. Later ten other Members joined the organisation. Currently, the Organization has a total of 15 Member Countries and these countries together makes 44% of global oil production and 77% of the world's "proven" oil reserves. The stated objective of the organization according to its official website is ""to coordinate and unify the petroleum policies of its member countries and ensure the stabilization of oil markets, in order to secure an efficient, economic and regular supply of petroleum to consumers, a steady income to producers, and a fair return on capital for those investing in the petroleum industry" (OPEC 2012). OPEC's primary goal is to keep prices stable. It wants to make sure its members get a reasonable price for their oil.

The institutional structure of the organization is described in the OPEC Statute. The Chapter III, Article 9, of the Statute has described it very well. It says, "The Organization shall

have three organs: I. The Conference; II. The Board of Governors; and III. The Secretariat" (OPEC 2012).

The conference is the supreme authority of the organization. It consists of the delegation representing the Member Countries. A delegation constitutes one or more delegates as well as the advisors and the observers. When a delegation consists of more than one person, the appointing country also has to nominate one person as head of the delegation. The conference is open to all member states. However, a quorum of three- fourth of member countries is required for holding a conference. Each member country has one vote and decisions are taken unanimously. Unanimous voting is usually adopted in an organisation which has less number of members. Moreover, this mode of voting makes the principle (member states) very powerful and the agent (an organisation) its puppet. Even one member state can block the organisation from deciding if the decision is not in line with the interest of that member state. Generally, the conference holds two ordinary meetings in a year. However, an extraordinary meeting can be convened at the request of member states. The conference appoints the president, chairman and alternate chairman of the Board of Governors, Secretary-General and also confirms the appointment of members of the Board of Governors. It also considers or decides upon the reports and recommendations submitted by the Board of Governors on the affairs of the organisation. Any amendment in the statute can also be approved by the conference. The supremeness of the conference can also be understood from this fact "all matters that are not expressly assigned to other organs of the Organization shall fall within the competence of the Conference" (OPEC 2012).

The Board of Governors (BoG) consists of the members or governors nominated by the member states and confirmed by the Conference. Like the conference, each member country should be represented in the Board of Governors meetings however the quorum is fixed at the two-third of the membership for holding the meetings. Each governor has one vote in the Board of Governors. The decisions are taken with simple majority votes in BoG. The term of the office of each governor is two years. Board of Governors meets twice in a year at a suitable interval. These meetings are determined by the Chairman of Board of Governors in consultation with the Secretary-General.

The major turning point of this organisation was in 1970 when its members took control of their domestic petroleum industries and acquired a major say in the pricing of crude oil on world markets.

Alliance of Small Island States (AOSIS)

AOSIS, the coalition is the only trans-regional group that was formed in contemporary times of climate change negotiations. It was formed in 1991 on the sides of Second World Climate Conference (SWCC). It was chaired by Vanuatu in INC negotiations (Djoghlaf 1994: 105). It consists of all small islands and low lying coastal states from around the globe. It has a membership of forty-four states from all oceans and regions of the world. The group functions as ad hoc lobby and negotiating voice for its members within the United Nations system to negotiate climate change. All its members face similar developmental challenges and are vulnerable to the adverse effects of global climate change. Therefore the group is primarily focused on the climate change negotiations happening under the aegis of the United Nations. The importance of this group was quickly recognised by the INC leadership, and Vanuatu was officially asked to join the INC Bureau. In addition to that, the representative of Vanuatu was named as deputy- chair of the working group on Mechanisms. The group negotiated very strongly on behalf of its member states. The small island countries and low lying states were facing the existential threat because of climate change problem. Hence they decided not to compromise anywhere.

The membership of AOSIS id divided into three broad regional categories. They are: the Caribbean, the Pacific and, the Africa Indian Ocean Mediterranean and South China Sea (AIMS). AOSIS does not have a very sophisticated structure it has only one bureau. The AOSIS Bureau is made up of United Nations Permanent Representatives from countries for each of its three regional groupings. It currently consists of Ahmed Sareer from the Maldives; Mahe ’Uli’uli Sandhurst Tupouniua from Tonga; and Lois Young from Belize.

Major Aspects of Negotiations on Framework Convention

With the generation of general awareness and sensitisation of climate change, the countries had begun to express their position on the issue. The industrialised states were willing to accept the climate change problem as an “environmental issue” whereas the developing countries of the

Global South viewed it as linked to "development issue". They were having the view that the crucial problems to fight were: poverty, drought and, famine (Bodansky 1994: 50). The climate change wasn't the issue of their priority. The developing countries rationalised their argument by unpacking the industrial revolution and pin pointing towards the emitters of carbon dioxide. Meaning thereby the developing countries put the blame of climatic condition the developed countries as they have emitted excessive amount of carbon dioxide for their economic purposes. They argued that North has already taken advantage of the industrial revolution and made economically prosperous. Now it is the turn of developing states to grow economically, and developed world cannot stop them from industrializing in the name of climate change. This is where the North- South dimension entered into the climate change negotiations (Bodansky 1994: 50). So, developing states linked the climate change to a developmental issue. This is how the parties got divided in two classes (Borione and Ripert 1994). They demanded that the developed states should bear the binding commitments on targets and timetable as they hold "historical responsibility" of combating climate problem (Dasgupta 1994). Apart from this broad division of developed and developing countries, different negotiating groups were divided on various aspects of negotiation.

The first major aspect is the classes of parties. As the developing states were not ready to keep the developmental aspect behind and act only to combat climate change, they were asking for the "environmental space" (Aggrawal and Narrain 1990) and their turn of development. . The developed states had already made use of industrial revolution and had also emitted enough of carbon dioxide and other greenhouse gases, so they were expected to obey quantitative limitations that were supposed to be put up by the framework convention. This classified the parties to the framework convention into two broad divisions. On these lines, the industrialised states were supposed to agree for abiding terms on targets and timetables, whereas the developing states were supposed to get a freeway as they were not ready to pay economic costs.

The second major aspect is the issue of sources and sinks. Sources indicate the sources of carbon dioxide and other greenhouse gases emissions. Since the dawn of industrial revolution numerous industries had become the sources of greenhouse gases as the usage of coal and petrol-products had been increasing exponentially in these industries. In order to combat the climate problem, the very first step parties were supposed to take was to limit the sources of greenhouse

gases including carbon dioxide. The states, especially the developing countries, were not willing to take this first step as states would have to compromise economically if they decrease their industrial productions. Both the developed and developing states were ready to limit greenhouse gases emissions without any conditions. The United States was trying to mould the climate change debate in order to skip any complying provision on limiting its carbon emissions (Agrawala 1998). It was attempting to make the Intergovernmental Panel for Climate Change (IPCC), the pivotal forum for climate change negotiations so that it can make the debate more of technical nature and ask the body of scientists to come up with some technological innovation to combat climate change. But developing countries insisted on keeping the negotiations under the aegis of the United Nations General Assembly (UNGA). The pre negotiations debate around limiting the greenhouse gases didn't become a burning issue because of US. It became so because of the North- South confrontations. The North had begun the debates over climate change way earlier than south and it had also started looking up for the solutions. Limiting the greenhouse gases was the obvious solution that was in discussions, while discussing the issue of sources north never intended to provide a differential treatment to the south and developing states had acted as a silent spectator at this stage. It was the Noordwijk Ministerial Conference, 1989 that received almost equal participation from the Global South and the demand of differential treatment to the global south came over the surfaced (Bodansky 1993). Initially, OECD countries were not ready to agree with this demand. The participants at Noordwijk perceived that although developing countries would need additional time and financial resources to reduce emissions and enhance sinks but they should also be subjected to the requirement of reducing emissions in order to combat the climate change.

The term "sink" is used in its metaphorical sense for the tree covers as the trees inhale the carbon dioxide and act as an environmental sink. Huge amount of deforestation had happened during the industrial revolution in the European countries which had caused the climate change problem in two folds. First, as the countries had cut forests extensively in order to clear the land for establishing industries, it had reduced the sink of already existing carbon dioxide in the atmosphere. Secondly, the industries that were established were also using coal as a fuel and carbon dioxide was being emitted from these industries. So they had increased the amount of carbon dioxide enormously. The cutting of forests had happened across the globe for various other developmental activities. Thereby it had become vital for states to re-establish the sinks as

a solution to the climate problem. So, one of the aspects for negotiation and debate is the issue of preventing deforestation and promoting reforestation.

Third major aspect was targets and timetable. Usually, the term "targets" is understood as an objective or goal, but in context of climate change negotiations, the "targets" means quantitative limitations on emissions of greenhouse gases and "timetable" means the period within which these targets to be achieved. It was very important to have concrete targets to limit the emissions of greenhouse gases. Without setting up the concrete targets, the convention was not supposed to be effective. A set timetable would not have allowed states to make any excuse for not acting upon the provisions of the convention in a time-bound manner. This is why the majority of states were ready to have fixed targets and time table in the convention. This was not the first time that the states were using targets and timetable to make the document more meaningful and powerful. They had used it even before in Nitrogen Oxide, Sulfur dioxide and, Montreal Protocols (Nitrogen Oxide Protocol 1979; Sulfur dioxide Protocol 1985; Montreal Protocol 1987). The targets and timetable vis-à-vis framework convention had gained enough controversy even before the negotiation had begun and it also remained to be the most controversial issue area during the negotiations (Bodansky 1993). The controversy had its linkage with the stiffness of states like the United States for reducing production and reducing the usage of coal as a fuel in industries. At the same time, it was not possible to move forward without having the major carbon emitter on board. Often targets and timetable issue became a battle between the United States and the rest of the world.

The fourth major aspect is financial resources and technology transfer. The issue was another most controversial aspect of climate change debate and negotiations (Bulatao and Sands 1991: 3). The issue was central to the North-South bargain. It had caught fire in Noordwijk Conference as South had drawn the bottom line for negotiations around this issue during this conference (Bodansky 1993). Vienna Convention and Montreal Protocol did not provide any precedence of transfer of financial resources and technology. So, after signing of Montreal Protocol, the developing states began to assert that they will accept the provisions to limit their use of ozone-depleting substances only if developed states agreed to provide them with additional financial resources and technology (Benedick 1991: 103). They found the negotiating platform of the framework convention as a suitable platform to stress on their demands. The

parties were having a diverging opinion on the issue of financial resources and technological transfer. The states were pondering whether the Convention should establish a fiscal instrument to generate these resources; whether developed nations would provide financial assistance on a mandatory basis, and if so, whether the Convention should set a minimum or assessed amount (Bodansky 1993). Both the Noordwijk Declaration and the Second World Climate Conference (SWCC) Ministerial Declaration stated that "additional resources" should be "mobilised" to help developing countries take action to deal with climate change (United Nations 1989; United Nations, 1990a).

Negotiating Stands of the Groups

The countries tend to negotiate in groups so that they can gain the number weightage and serve their respective common interest in negotiating the process. They choose the groups very consciously by calculating thoroughly all possible outcomes that they may have to receive. The very same calculations are visible in the groups' choices made by the negotiators for negotiating a framework convention on climate change. European countries could have chosen the other European grouping to represent them, but they preferred OECD as they knew they have to address the issue of financial and technology transfer.

In the same way developing countries could have come under the respective umbrellas of their regional organisations, but they chose the old player, G-77. When small islands and low lying states found themselves left out within G- 77, they allowed their newly formed coalition AOSIS to participate in the negotiations on their behalf. Small island states had decided to let G-77 represent their interest in the beginning but came out of G-77 and decided to represent for themselves as they found their interest is not served within G-77. Same was the case of oil-producing countries. They had allowed G-77 to represent themselves as they thought the decade-old issue of financial and technology transfer could reach a solution if all developing states come under the umbrella of G-77 and negotiate collectively. But, along with the negotiating process they found their expectations are not fulfilled in addition their economic interest is getting compromised. Hence G-77 retreated from representing the developing states in the beginning of the fourth session. This is how AOSIS and OPEC also became major negotiators in INC.

The negotiating positions of these four groups can be traced from their respective aims and objectives. The positions of OECD and G-77 are centered on the North- South debate. The

stands taken by AOSIS and OPEC are centered on the issue of direct concerns to their respective members.

Organisation for Economic Cooperation and Development

The countries belonging to this group together shared the largest amount of greenhouse gases emissions (Agrawala 1998). So they were expected to initiate the proceedings of resolving the problems arising due to climate change. OECD members never had any problem with the institutionalised mechanism of resolving the said problem. They always advocated the strong process to address climate change through the institutionalized mechanisms sanctioned by the convention including regular meetings of the parties, detailed reporting requirements and, also the procedures to resolve questions about a country's compliance with the convention. The only issue which failed to get a collective acceptance from all OECD members was the issue of targets and timetables to limit greenhouse gas emission. It created a split among its members. All OECD members except the United States favour targets and timetables. So the major difference on this issue made the United States adopt different position from that of the rest of members of OECD. The European members of the OECD were highly critical of United States' approach and preferred a strict quantified target to be included within the convention (Bodansky 1993; Paterson 1996; Agrawala 1998). The question that underlines the United States' stiffness is- what was the then share of greenhouse gases emission that the US was holding? It alone was responsible for one- quarter of the global total of the greenhouse gases emissions (Bodansky 1993). These emissions were not happening from some wasteful activities that the country could have possibly agreed to compromise. Rather it was happening from the core industries of the United States and shutting them down would have impacted the economic interest very gravely.

Moreover, it had large reserves of cheap coal which emit more amount of carbon dioxide per unite energy and obviously why the Unite States will consciously defunct these reserves when it could have given the state economic perks (Bodansky 1993; Agrawala 1998). Here comes the second question, why the other European states were ready to have targets and timetable in the convention? The answer to this question can't be entirely political. As we have observed in the previous chapter that a lot of scientific research and conferences vis-à-vis climate change was happening in Europe, many of the climate change crusade scientists came from this region of the globe and they filled the political air with the climate consciousness which made it

difficult for the political bodies to turn completely stone-hearted to this issue. Moreover, countries like Germany were already subsidising coal for their people, and by agreeing to time table and targets, they would have been benefitted domestically (Bodansky 1993; Agrawala 1998). So, they were not paying the huge cost by agreeing to targets condition. OECD was actively engaging in getting a solution for climate change issue and was ready to comply with a majorly agreed convention. The negotiating interests of OECD members are being elaborated in following section.

The developed world was not unknown to the demands of developing states. Global South had explicitly indicated in Noordwijk that they would not accept any quantitative limitations on their greenhouse gas emissions and there should be a classification of parties on the basis to specific commitments. Though the North was not ready to accept the argument of "historical responsibility" that was given by the South, it did recognise the need of making certain compromises to keep the South as parties to the convention (Paterson 1996). So, they, therefore, recognised the need to exclude the developing states from any quantitative limits (Bodansky 1993). Though they were accepting the need of exempting the developing states from these quantitative limits, they were not ready to exempt the newly industrialised states of the Eastern Europe and the former Soviet Union. So they wanted to put the newly industrialised states in a different category and exclude them from these exemptions.

Though, the targets and timetable issue remained highly controversial while negotiations but the targets and timetable norms were prioritized over the uniform international regulatory rules. The proposal of these rules had come from Canada following the precedence of the Law of Sea (Toronto Conference 1988). The norm was preferred by all parties as it keeps the sovereign policy-making space of all states intact (Grubb and Steen 1991: 3). European members of OECD had accepted the proposal without any exception, but the United States, a non- European member of the group, impeded the whole process of the negotiation as it was hostile to the norm of targets and timetable. Before the negotiations, most of the western countries had pressed vigorously for the adoption of an internationally defined target and timetable to stabilise greenhouse gas emissions. They had pressed for particularly carbon dioxide emissions stabilization. European Community supported an immediate commitment by developed countries to stabilise carbon dioxide emissions at 1990 levels by the year 2000. Many OECD countries

unilaterally adopted national targets and timetables. The main holdout against the adoption of targets and timetables was the United States, which derided the targets and timetables adopted by most other countries as political, not backed by concrete measures designed to achieve them (Bodansky 1993). The United States opposed targets and timetables for greenhouse gas emissions as premature. It criticised the EC proposal as a rigid and inequitable "top-down" approach, given the differences between countries in national circumstances and implementation costs (Sebenius 1991). The United States argued that the Convention should instead adopt a "bottom-up" approach that encourages the development of better information, national strategies, and action plans. Although the target and timetable issue is often portrayed as a battle between the United States and the rest of the world, the situation was, in fact, more complicated. Other industrialized countries did agree with the United States about the need for a long-term planning process. Moreover, while the United States was one of the few industrialized countries to flatly oppose targets and timetables, other OECD states proposed varying formulations of the target and timetable. These differences concerned the strictness of the legal obligations, the types of gases covered, a focus on the net or gross emissions, and joint implementation. For example, the CANZ group and Finland favored establishing a stabilization target for all greenhouse gases not controlled by the Montreal Protocol rather than for just carbon dioxide, while Japan supported a "best efforts" approach rather than a firm commitment to limit greenhouse gas emissions. The OECD members had diverging positions on the issue of sources and sinks. They took a stand on the issue in accordance with their national comforts. For example, United States and Australia have large reserves of cheap coal so they opposed to reduce sources and enhance sink whereas Germany subsidizes coal production so it could save money by abiding to source and sinks provisions. There was divergence in the views of different OECD members' vis-à-vis sources and sinks.

Group of 77and China

Like the usual business, Global North and South were not seeing the climate change issue from the same vintage. They were framing their interests in their bounded rationalities. When the Global North tended to see climate change as an environmental issue, the Global South cried foul and called it a developmental issue. Many of the scholars even went to the limit of calling the same as "eco-colonialism" (Agrawal and Narain 1991; Paterson 1996). The developmental

linchpin of the south was itself explicit from its choice of negotiator- G 77, a group that came into being only to serve the economic interest of Global South, to negotiate in UNCTAD on its behalf. Though it took a multifaceted shape with the need of time at a later stage, it had the economic interest in its bedrock. It prioritised the same even while negotiating climate change. The developmental or economic cause was not and can never be called as totally absurd from the view point of developing states in the context of climate change. So, picking up threads from economic context, it was logical enough for G- 77 to keep the developmental issue as pivot of its negotiating bargains. Developed world had already got ahead of the developing countries through industrialization and by emitting carbons. When global south also began to follow the global north and set itself on the journey of economic development, then global north realised the environmental cost of the same developmental model. G- 77 tended to negotiate agenda by agenda and not to compromise on the economic front. The negotiating stands of G- 77 on different agendas of G- 77 were as follows:

The developing countries had made it very clear at the outset of the negotiations that developing countries would not accept any quantitative limitations on their greenhouse gas emissions. They have been vocal about their stands on this issue even in Noordwijk Conference. They feared that such limitations would impede their economic development (Agrawal and Narain 1991). The developing countries had made it very clear at the outset of the negotiations that developing countries would not accept any quantitative limitations on their greenhouse gas emissions. They have been vocal about their stands on this issue even in Noordwijk Conference. (Paterson 1996).

G- 77 countries had reiterated time and again that they will not accept the quantified targets for limiting their greenhouse gas emissions. The developing countries had made it very clear at the outset of the negotiations that developing countries would not accept any quantitative limitations on their greenhouse gas emissions. They have been vocal about their stands on this issue even in Noordwijk Conference (Agrawal and Narain 1991).

Organisation of Petroleum Exporting Countries

The major economic interests of these countries lie in the export of crude oil. They wanted OPEC to negotiate on their behalf in order to save the same economic interest. As G- 77 and China was not able to inculcate the specific commitments related interests of OPEC and AOSIS

simultaneously, so it decided to retreat and allow these two organisations to represent on behalf of their member states.

The member states of OPEC had initially decided to be represented by the G- 77. During the third session, they decided to represent their negotiating interest separately through OPEC as G- 77 was not able to include their interest in various issue areas (Paterson 1996). As the group had not taken part separately at the beginning of the negotiations, so it was not having any separate opinion from G- 77 moreover the members did not have any exclusive interest vis-à-vis parties' differentiation.

The members of the group, specifically Saudi Arabia, took an impeding stand while deliberating on targets and timetable. The OPEC members sided with the US when it came to taking a stand on this issue. They did so because they were not ready to pay the economic costs. The rational given by OPEC nation was uncertainty of the science of climate change. They argued in favor of more scientific research on this issue.

OPEC was mainly concerned about the issue of targets and timetable as it had an impact on the domestic economies of its member states. It was not having any different view from the G- 77 and China on the issue of financial and technology transfer. Thereby it favored the transfer of financial and technological resources from developed states to the developing states.

Alliance of Small Island States:

The group came into being during the Second World Climate Conference, 1990. The group had not opposed the idea of parties' differentiation, but it holds a very different rationale and basis of this differentiation. The group proposed that the parties' segregation must be on the basis of countries vulnerability vis-à-vis climate change (Bodansky 1993).

The association had opined very strongly on targets and timetable since its inception in 1990. The island states decided to negotiate under the umbrella of G-77 in order to put pressure on the issue of financial and technology transfer. But it found its basic interest of having binding quantitative targets and time-bound schedule for combating climate change issue is getting compromised. Hence it decided to negotiate on its own. The group opined in favour of having binding commitments on targets and timetable for the states.

The association supported the idea of reducing sources and enhancing sinks in order to combat climate change. It also supported the idea of financial and technology transfer. It demanded separate funds for most vulnerable states (Bodansky 1993).

Conclusion:

In a nutshell, climate change problem touches every aspect of the economic sector. It is universal in two ways. Firstly, it has global implications. The greenhouse gases emissions in one part of the globe may influence the climate in another part of the globe. The small island states have contributed the least to carbon emissions, but they are the most vulnerable states because of sea level rise. Secondly, the greenhouse gases problem influence all economic sectors of the states. Energy, industry, agriculture, transport, forests- all these sectors end up either producing or absorbing greenhouse gases. So, there can't be any single sector solution to the problem. Energy activities happen to be the major source of anthropogenic emissions; they are responsible for more than 50% of these emissions (Borione and Ripert 1994: 81). The major chunk of the energy activities is carried out by the industrialised states. Thereby they happen to be responsible for creating climate problem. The negotiations of framework convention couldn't be carried out by ignoring these two universalities. It was important to involve all states in the negotiations. And considering the economic costs of implementing the policies to combat climate change was also important.

The economic aspects of the climate change problem made it important for the groups like G-77 and OECD to take an active part in the negotiations. The groups joined the negotiations because their members' had their stakes in negotiating climate change. The high economic stakes made everyone not to ignore the negotiations and get involved in the process. Even the groups that wanted to impede the negotiations and align with blocking parties could not ignore to participate. They had their own negotiating targets and attempted to make the ground for themselves in every possible way before INC opened the floor for formal negotiations. These attempts were made by conducting several seminars; Organizations also communicated their interests through a various press release. This is how they prepared themselves to face each other on INC platform and get their respective interest served. States that were not ready to bear the economic cost of combating climate change also tried very hard to gain blocking states' numbers. United States tried to win the confidence of OPEC countries for the same.

Classes of parties, sources and sinks, targets and timetables and, financial and technology transfer are four major aspects of the climate change negotiations. Major negotiating groups had their respective opinions vis-à-vis these aspects of the negotiations. They had their own priorities in respect to these four aspects of negotiations. For example, financial and technology transfer was most important aspect for G77 and China whereas targets and timetable was an important aspect for OECD countries. Quantitative targets and timetable was important to both those who supported as well as to the states that opposed it. United States was the major opposition to targets and timetable; it opposed the issue from the very beginning of the negotiations. The US was joined by OPEC states in opposing the issue of targets and timetable. The AOSIS happened to be the negotiator of most vulnerable states hence strongly supported targets and timetable. It also supported financial and technology transfer and, sources and sinks issue. It differed from other groups on the issue of classes of parties; it wanted to have a differentiation on the basis of vulnerability to climate change but met a failure in dividing the parties on these lines.

Chapter 4

Negotiations at Intergovernmental Negotiating Committee: Inter-Group Bargaining

Introduction:

Climate change as an issue has its own distinct features which have impacted the negotiations at every level. First and foremost feature is the universal nature of the climate problem (Borione and Ripert 1994: 80). It is universal in two ways. Firstly, it has global implications. The greenhouse gases emissions in one part of the globe may influence the climate in another part of the globe. The small island states have contributed the least to carbon emissions, but they are the most vulnerable states because of sea level rise. Secondly, the greenhouse gases problem influence all economic sectors of the states. Energy, industry, agriculture, transport, forests- all these sectors end up either producing or absorbing greenhouse gases. So, there can't be any single sector solution to the problem. Energy activities happen to be the major source of anthropogenic emissions; they are responsible for more than 50% of these emissions (Borione and Ripert 1994: 81).

The major chunk of the energy activities is carried out by the industrialised states. Thereby they happen to be responsible for creating climate problem. As they happened to be the major contributor to greenhouse gases problem, they wanted to negotiate the framework convention through a non- political platform. They want that their historical deeds don't get any mention while preparing the framework convention. The United States, the major contributor to the greenhouse problem had opposed the need for negotiations and argued in favour of more scientific study of the phenomena under the aegis of Intergovernmental Panel on Climate Change IPCC (Bodansky 1993: 472).

After facing intensified pressure at international level, the United States agreed to negotiate the climate convention instead of pressing for more scientific research. The next major tug war among developing and developed countries were regarding, which institutions should undertake the negotiations of the convention. Immediately after United States acceptance of the need for framework convention, UNEP's Governing Council adopted a resolution requesting UNEP to begin preparations for the negotiations (Bodansky 1993: 473). After that UNEP had begun the preparations of the negotiations. In December 1989, the United Nations General

Assembly adopted a resolution seconding the UNEP's decision of beginning the preparations for the negotiations. An open-ended ad hoc working group of government representatives was convened by UNEP and WMO in September 1990, in order to discuss the ways, means, and modalities for the negotiations (Paterson 2003). The disagreement of the governments regarding, who should conduct the negotiations, became visible in this meeting.

The industrialised states supported that the negotiations should happen under the auspices of UNEP and WMO. In essence, it meant to carry forward the process established by IPCC (Bodansky 1993: 474). The industrialised countries decision to support IPCC and WMO was not completely apolitical. They accepted this proposal only to make the negotiation process as technical as other processes under IPCC. This was not acceptable to developing states. They were already feeling being excluded from the IPCC process. Thereby they wanted negotiations to be undertaken under the authority of UN General Assembly. As stated in the previous chapter, developing countries wanted to see climate change issue not only an environmental issue. They wanted to include developmental aspect in the negotiation for convention as well. As the issue has its impact in various sectors such as energy, industries, agriculture, the developing countries argued that the issue of climate change couldn't be dealt only as a technical issue. They demanded the issue should be negotiated under the authority of UN General Assembly. As UN General Assembly is a political body, it could look into the political aspect of climate change as well.

During the forty-fourth session of the UN General Assembly a resolution was passed stating that the General Assembly was the "appropriate forum for concerted political action on global environmental problems" (Bodansky 1993: 474). In December 1990, the UN General Assembly adopted to establish the INC as "a single intergovernmental negotiating process under the auspices of the General Assembly." The Assembly directed the INC to "take into account" the work of the IPCC, and invited UNEP and WMO to make "appropriate contributions" to the negotiating processes. It also called for the establishment of an ad hoc secretariat (United Nations 1990b).

The chapter will open up with a discussion on the structure of the Intergovernmental Negotiating Committee (INC). The second section is the detailed elaboration of inter group bargains. This section elaborates how did the major groups bargained with each other while

negotiating at INC. The third section will be focused on the finalised content of the framework convention. The fourth and last section will be the conclusion.

Inter-governmental Negotiating Committee (INC): The Structure

The structure of the INC was finalised mostly in the first two sessions. In February 1991, the first plenary session of the Intergovernmental Negotiating Committee started and hereby the formal processes of the climate change negotiations begun. The United Nations General Assembly resolution that established the INC had fixed the number of sessions that were required to negotiate the convention. It had fixed five sessions for negotiating the convention. It had also deliberated on the secretarial structure of INC. The first session happened in Chantilly from 4 February to 14 February 1991. This session was mainly devoted for procedural matters. The election of INC chair and vice- chairs took place during the first session. Jean Ripert from France was elected as chair, and the representatives from Algeria, Romania, Argentina and India were elected as vice- chairs. The elected chair and the four vice chairs together made the Bureau of INC. The two Working Groups were formed in order to conduct the negotiation in the upcoming sessions. These Working Groups were asked to deal with different aspects of negotiations. The procedural work continued even during the second session. In this session, the two Chairs and a Vice Chair were elected for each of the Working Groups. The elected co-chairs of Working Group I were Nobutoshi Akao of Japan, and E. de Albe- Alcaraz of Mexico (Bodansky 1993: 485; Paterson 2003). The Vice-Chair of this group was M.M. Ould El Ghaouth of Mauretania. The group got the mandate of dealing with the question, what commitments states were to make (Paterson 2003: 59). Elizabeth Dowdeswell of Canada and Robert Van Lierop of Vanuatu were elected as co-chairs of Working Group II and M. Sadowki of Poland was elected as the vice-chair of this group (Bodansky 1993: 485). The group was asked to address the questions related to institutions and mechanisms to be set up under the convention.

The rationale for forming only two Working Groups was that the most of the developing countries had sent only two delegates for the negotiations so it would be difficult for the delegations from developing world to keep track of every aspect of the negotiations if there would be more number of Working Groups (Paterson 2003: 53). The rules and procedures of the INC were also established in the first meeting. According to the procedural rules of INC, there was a prohibition on holding more than two meetings at one time. This rule was adopted in order

to ensure full participation from all the countries. The developing states had sent smaller delegations; some of them had sent just two delegates. There was also a prohibition on holding meetings in inter-session period. This rule was adopted in order to ensure transparency in the negotiating procedure (Bodansky 1993: 484). The second rule was violated during fifth and resumed fifth session. The fifth session was resumed in order to complete the negotiations and inter-sessional meetings were taken during this period. Meetings of the extended bureau were held between the fifth and resumed the fifth session. The rules of procedure of the Negotiating Committee allowed for the majority voting. Though there was the provision of majority voting in rules of procedure, the provision could only be applied if the attempts to reach consensus fails. The practice of voting was used only for adopting reports of meetings. It was also used in the resumed fifth session of INC (Paterson 2003: 64).

In the first decision of the Working Group I was directed to prepare a text related to appropriate commitments for: "1) limiting and reducing net emissions of carbon dioxide and other greenhouse gases; 2) The protection and enhancement and increase of sink and reservoirs; 3) Combating the adverse effect of climate change; 4) Providing adequate and additional financial resources to enable developing states to meet the incremental costs of fulfilling these commitments; 5) Transfer of technology on fair and favorable basis from industrialized states to developing states so that these states can also develop in sustainable manner and participate in combating climate change; 6) Addressing the special situations of the developing states and, the problems of Small Island developing states" (INC 1991a).

The second working group was mandated to prepare a text related to:(a) Legal and institutional mechanisms, including, inter alia, entry into force, withdrawal, compliance and assessment and review;(b) Legal and institutional mechanisms related to scientific cooperation, monitoring and information;(c) Legal and institutional mechanisms related to adequate and additional financial resources and technological needs and cooperation, and technology transfer to developing countries corresponding to the commitments agreed to in Working Group I (Bodansky 1993: 482; Paterson 2003).

The process of election of chairs and vice chairs of two working groups didn't happen without politics. Asian states were trying to promote Japan for the co-chairmanship of Group I (Paterson 2003: 53). The politics was also witnessed over dividing the objectives of the groups.

Developing countries wanted to split the groups into different lines. G-77 had insisted that Group I should be committed on the issue of "sources and sinks" and, "financial and technology transfer". The second group should be devoted to the issue of implementation mechanisms, (Paterson 2003: 53; Bodansky 1993: 3). They wanted to devote one complete group to negotiate the issue of financial assistance and technology transfer. They were hoping that the climate change negotiations would become a vehicle to address equity issue that had remain unresolved between North and South since the end of world war II (Mintzer and Leonard 1994: 32). But they failed to divide the work of the groups into its aspired lines.

The structure of INC was not altered for the rest of the sessions. It was kept same until the fifth session of INC. The fifth session happened in February 1992. This session was supposed to be the last session of INC as per the plan laid out in UNGA resolution that authorized the formation of INC. However, that wasn't the case as the INC had to resume the fifth session in April- May, 1992 in order to negotiate the final document.

During the fifth session, which happened in February 1992, the structure of the committee was altered. The established Bureau of five members was re-organised into an "extended bureau". It consisted of formal bureau members, one chair of INC and four vice chairs, bureaus of two working groups along with other key delegations invited by the chair of the INC, Jean Ripert. The extended bureau held inter-session meetings in Paris between the fifth and resumed fifth session. Though inter-session meetings were not allowed, considering the gravity of the situation, they were conducted by the INC. In the resumed fifth session, the negotiations happened mainly via the clusters of delegations. There were three main clusters. The first cluster was coordinated by the Vice-Chair Djoghlaf of Algeria, it was focused on the Preamble, Principles and Objectives, The second cluster was coordinated by Jean Ripert, and it was focused on Commitments, the Financial Mechanism and Communication of Information to the Conference of Parties. The third and the last cluster was coordinated by the Vice-Chair Estrada-Oyuela of Argentina; it was focused on Institutional Provisions and Final Clauses (Paterson 2003: 63). The INC sailed successfully in formulating a majorly agreed framework convention that too on the already set deadline. Generally, the task of formulating the draft of international law is done before negotiating it but this time the negotiations and the draft

formulation was carried out simultaneously. The convention was ready for signatures for the United Nations Conference on Environment and Development held in Rio de Janeiro.

Bargaining among the Major Groups

UN General Assembly had given the mandate to INC of drafting an effective "framework" convention on climate change, which should contain appropriate commitments (United Nations 1990b). The mandate provided by the UN General Assembly opened the fundamental question of whether INC has to negotiate a framework convention or a substantive convention (Bodansky 1993: 493).

A framework convention is largely a procedural convention, which establishes the basis for the actions in the upcoming time, whereas, a "substantive convention" makes states to commit the concrete measures and policies. The debate concerning the title of the convention on climate change persisted till the end of the negotiations. Those states who were demanding states to commit and frame a substantive convention suggested that the title of the convention should be "U.N. Convention on Climate Change". These states wanted that the INC should come up with a convention which is close to a substantive convention. In the Working Group I, they argued in favour of specific targets and timetables to limit greenhouse gases emissions. In the Working Group II, they disagreed for framing only institutional structures in the convention. They wanted to elaborate on these structures, not to leave the elaboration part for Conference of Parties meetings. On the other hand, there were states who thought that the framework convention should be negotiated at that time as they were not ready to implement a substantive convention. They suggested that the title of the convention should be "U.N. Framework Convention on Climate Change". At first, the US made an indication towards the framework convention as it favored a "process- oriented convention" (Bodansky 1993: 496). This would not focus on commitments specifically. The proposed framework convention was expected to establish ambitious implementation mechanisms.

The developing states supported the substantive approach as long as the commitments were to be implemented by considering the principle of common but differential responsibilities. The OECD countries other than the US, and AOSIS member states also favoured a substantive convention. United Sates was backed by oil-producing states wanted only the process approach as they wanted to frame only a set of general principles rather than specific commitments. After

the through discussion on the title and the matter in it, the final outcome documents lies somewhat in the middle. In terms of matter, convention carries the features of both, the framework as well as a substantive convention (Bodansky 1993: 496). In terms of the title, the term "framework" was retained in it.

The negotiations happened in five systematic sessions conducted by INC. The sessions were charged with interesting dialogues among different groups putting forth their diverse perspectives, reflecting their interests. The first two sessions were dominated by the procedural matter, the rest of the three sessions were devoted to negotiating major aspects of the climate issue.

Bargaining on Preamble

Generally, the preamble of the international agreements includes background, context and purpose of the agreement. The paragraphs of the preamble of UNFCCC were finalised after going through heated bargaining among the negotiating groups on each and every words that were included in the final draft. While negotiating, both the developed and developing states were bargaining hard to include their respective positions on the issues of climate change. In the negotiations of the preamble, the developing states successfully included the provisions of their interests in the third paragraph of the preamble. The third paragraph of the preamble incorporated their concern of the share of greenhouse gas emissions of the developed countries. It also highlights the relatively low share of greenhouse gases emissions of the developing countries. It states, "The largest share of historical and current global emissions of greenhouse gases has originated in developed countries". The paragraph also mentions about the differential treatment to developing states, as it says "the share of global emissions originating in developing countries will grow to meet their social and development needs" (United Nations 1992).

Though the major demands of the developing states were successfully included in the final draft of the convention but these states wanted something more. They wanted to include the principle of "main responsibility". This means as the developed countries have contributed the most in creating climate problem so they should be mainly responsible for combatting it. The main responsibility principle was included in the preamble but in a very compromising way. It was included only by writing a sentence that identifies the developed states as the main

contributor of greenhouse gases, but it doesn't lay any responsibility on them to combat climate change.

The second clause of the third paragraph mentions about the per capita emissions of the developing countries. This clause was proposed by Indian delegation and supported by rest of the G- 77 members. This was introduced with the intention to highlight the principle of common but differential responsibilities (Brauch *et al.,* 2011) in the preamble but again it was neutralised by negotiators of OECD countries in order to save their interests. The clause says that "per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs" (United Nations 1992). Another principle to get a place in the preamble on popular demand of developing states was the principle of sovereignty. The principle was reaffirmed in the preamble, though developing states wanted to include the principle in the third article which is devoted to the principles.

The preamble doesn't include many of the demands of the developing states such as transfer of technology on concessional and non- commercial terms, new and additional financial resources (Bodansky 1993: 499). The noteworthy points that were stressed upon while negotiating preamble were the importance of basing response measures on "scientific, technical and economic consideration". These provisions draw the basic essence of the preamble.

Another bargain that drew the attention during the negotiations were concerning with the principle of "no regret". The principle was proposed by the OECD states. This principle states that the actions taken by developed states to combat climate change should be justified in their right independent of the climate issue. Meaning thereby the action shouldn't be seen from the historical angle. The final draft of the preamble has recognised the "no regret" principle. This is how the "main responsibility" principle, which was desired by the developing countries, was neutralised by OECD states. The main responsibility principle poses the responsibility of combating climate change on the industrialised states as they are historically responsible for polluting the atmosphere hence for climate change. On the other side, the principle of "no regret" is promoted by the industrialized states. This principle basically oppose the "main responsibility" principle and make developed states responsible to combat climate change in their individual right not because of any historical burden (Bodansky 1993).

Bargaining on Principles

The extensive discussions happened on the proposed article on general principles during the second week of the second session. The states from the Global South wanted to include various principles in the convention. In contrast the developed states opposed the presence of a section on principles. It didn't want any specific section on principles. Both the groups were standing on opposite positions for including or excluding a section on principles in the preamble. Global South wanted to establish new precedence by including the section for the formation of new international law, and the developed countries didn't want to set such precedence (Paterson 2003: 74). The article was not introduced in decision 1/1, but it was introduced shortly after finalising decision 1/1 by Chinese delegate. China introduced the article with the support of developing countries. The United States questioned the legal status of the section. It argued that the section on principles hardly states the motives of the states or provide the context for interpreting the convention's commitments and these functions are traditionally done by the preamble. Anyhow developing states managed to have a separate article on principles. Article 3 of the convention is devoted to the general principles. The US kept on pressing to make many changes in the article in order to reduce its potential legal implications (Bodansky 1993: 502). The term "states" was replaced by the term "parties" and the term "inter alia" was added to the introductory part of the article 3 on the basis of the intervention of United States (Bodansky 1993).

Developing states had to compromise on the inclusion of certain principles that they wanted to see under the third article. These principles were transferred to some other section because of the opposition of the developed states. Developing countries were interested to get the sovereignty principle under Article 3 as they wanted to use their natural resources according to their own needs and they feared interference from the North in the name of Joint Implementation, what some scholars have termed as "eco-colonialism" (Agrawal and Narain 1993). The industrialised states had bluntly opposed having this principle in Article 3. The principle was added in the preamble of the convention (Paterson 2003). The United States had opposed the idea of including a principle on sovereignty. Another contentious principle that Global South wanted to see in the convention was the principle on 'common but differential responsibility'. Though, the inclusion of this principle wouldn't have affected much in terms of

the implication of the convention as the industrialised states had already taken the leadership responsibility and they were ready to limit their carbon emission, with one obvious exception of United States. Still, the developing countries wanted to ensure the normative presence of the principle of common but differential responsibility (Bodansky 1993). The principle implied, the climate change is a borderless problem and seeks a solution beyond borders hence it has to be dealt with commonly by all states across the globe. Along with that the responsibilities to resolve the issue should be differential in nature. Parties should be differentiated on the basis of their contribution to the problem. As industrialized states had historically emitted more carbon dioxide and other greenhouse gases, so they would be more responsible to seek a solution for this, according to this principle. Developing countries wanted to have this principle even when developed states were ready to lead and limit their emissions. The developing countries wanted this because of its normative importance. Consequently, it was added to the convention with a lot of ambiguity, in a section dealing with rights and responsibilities of North and South (Paterson 2003: 74; Borione and Ripert 1994).

In some cases, the principles initiated by the global south states were not included in the final agreed text. These included principles on the right to development, the principle on "main responsibility, the principle that no environmental conditions should be imposed on aid (Bodansky 1993: 502). The developing states wanted the principle of main responsibilities to be included in the article. The developed countries were ready to take the lead role in combating climate change, but they were not agreeing with the reason given by developing states. The OECD members opposed the main responsibility reason given by developing states. Hence a neutral language was used in final text as follows, "developed countries parties should take the lead in combating climate change and the adverse effects thereof," (United Nations 1992).

The inclusion of the second principle is a victory of AOSIS member states. The principle acknowledges the special circumstances of the parties that are vulnerable to the adverse effects of climate change. AOSIS didn't get any opposition while making the proposal of adding this principle. Negotiators recognised the need of paying special attention to the plight of these first-line victims of climate change. The third principle was a precautionary principle. It states "where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to

deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost" (United Nations 1992). The precautionary principle was supported most strongly by AOSIS member states. They did so in an opposition to the stand taken by oil-producing states. OPEC countries were questioning the science of the climate change and asking for more proofs. At the first session of INC, Robert F. Van Lierop, the Chairman of the delegation of Vanautu and Permanent representative to UN, explained AOSIS's backing for the principle in very strong terms: "For us, the precautionary principle is much more than a semantic or theoretical exercise. It is an ecological and moral imperative. We trust the world understands our concerns by now. We do not have the luxury of waiting for conclusive proof, as some have suggested in the past. The proof, we fear, will kill us" (Bodansky 1993: 503). Another controversy around the third principle was regarding the inclusion of a reference to the "cost-effectiveness" or not. The proposal to include the word "cost- effectiveness" brought economic considerations into the otherwise purely environmental principle. It was G- 77's proposal to bring the term in as this term was also used in the Second World Climate Conference Ministerial Declaration. Because of the opposition from OECD states, the word was dropped by INC Chair from the final draft. Though there was a separate principle of cost-effectiveness in the final draft.

Initially, the G- 77 members had argued for including of a principle which recognises the right to development is an inalienable human right (Bodansky 1993). The US opposed this right to development argument of the developing states. Meanwhile, some OECD members proposed to include a principle that states have a duty to aim at sustainable development (Bodansky, 1993). The developing countries opposed the sustainable development principle as they feared "sustainability" could possibly become a new condition of industrialised countries on financial assistance and may result into impeding their development plans (Bodansky 1993). Finally, the concerns of both, North and South, were partially addressed in the language of the fourth principle. The fourth principle begins with: "The Parties have right to, and should, promote sustainable development.…taking into account that economic development is essential for adopting measures to address climate change" (United Nations 1992).

Bargaining on Commitments

Another major section of the convention is devoted to the commitments. Following the principle of common but differential responsibilities, the convention frames different commitments for the

developed and developing parties. The obligations are arranged in a very sophisticated manner. They can be broadly divided into three sections. The first section includes general obligations that apply to all parties of the convention. The second section includes specific obligations on sources and sinks. These obligations apply to OECD member states and former Eastern bloc members. These states are listed in Annex I. The third section deals with specific commitments on financial resources and technology transfer, these commitments apply to the parties listed in Annex II (Bodansky 1993). The OECD member states are listed in Annex II. The general obligations were qualitative, not quantifiable in their nature. They include issues such as greenhouse gas inventories, national strategies, reporting, cooperation in scientific research and, information exchange. The convention possesses the specific commitments that pose obligation on OECD states. A set of specific commitments was also proposed for the developing states initially, but it was abandoned at the later stage of the negotiations. Thereby the convention mentions the specific commitments only for developed states (United Nations 1992).

The relation between the general and specific commitments was found to be a bit problematic during the negotiations. After troublesome negotiations, all delegates decided that the capability of the Global South to comply with the general commitments would rely upon the specific commitment of OECD states to provide financial and technology resources (Bodansky 1993). G- 77 states, led by India, argued in favour of mentioning “common but differentiated responsibilities” at the beginning of general commitments. Ultimately the term was added in the final content of the convention. The first and foremost issue concerning general and specific commitments was the issue of segregating the parties. Most of the developing countries demanded that the parties should be divided on an economic basis. There should be two broad categories developed and developing states. The AOSIS demanded more sophisticated division based on the degree of helplessness to the adverse effects of the climate change. The industrialised states wanted to make two separate categories of “newly industrialised states” and “economies in transition”. They wanted to include the states in Eastern Europe and the former Soviet Union in the latter category. However, the finalised text of the framework convention uses “developed” and "developing" countries as the principle classes. It also recognises two additional classes: "countries with economies in transition" and "least developed states" (Bodansky 1993: 507).

Regarding general commitments, a long list of commitments was proposed. This list was more qualitative in nature. The development of renewable energy sources; promotion of energy efficiency; promotion of sustainable forest management; removal of subsidies that contribute to global warming, were few major commitments included in the list. After the debates on each of these issue areas, most of the provisions were abandoned from the list. Some of them were transferred in the list of specific commitments.

The heated debates happened before finalising the clauses of the general commitments. These debates mostly involved OECD and G- 77 states as they were to apply to all the parties. Each and every clause went through thorough investigation and debate. Parties had to find a middle path in order to reach a consensus. The most important general commitments to be included in the convention were the principles that were concerned with long-term national planning and international review of national actions. Under these principles parties to the convention were expected to develop, periodically update, and publish national inventories of the greenhouse gas emissions by using comparable methodologies. This provision was included in the convention as Article 4 (1) (a). The negotiators had a very detailed debate on this issue. The developed countries opined in favour of establishing the same methodologies to prepare the greenhouse inventories, whereas the developing countries felt that the same methodologies might not be appropriate for all countries.

Regarding national planning requirement, the developing countries opined that it should include only formulations of the plan and the implementation of the plan. It should not include the strategies. They thought the formulation of the strategies is a sovereign function that should not be required by the convention (Bodansky 1993: 509). The developing states also wanted that the provisions to communicate information should be voluntary rather than mandatory. The provision managed to survive the negotiations in its original shape. There were other provisions which were weakened as the negotiations progressed. One among such issue was the general commitments concerning the issue of sources and sinks.

Other general commitments concerns with the adaptation and with the integration of climate change considerations into each party's social, economic and environmental policies and actions. The drafts of the provision had included a requirement for environmental impact assessment of all policies but to accommodate United States opposition the requirement was

modified to be one possible method to integrate climate considerations into policy making. The proposed general commitments also received the opposition from the developing states. As a result the provision was shifted to the specific commitments section.

Bargaining on sources and sinks issue

The commitments vis-à-vis sources and sinks were general as well as specific in nature. The general commitments concerning sources and sinks were weakened in comparison to the original proposal. The oil-producing states objected the regulations of the sources whereas the states that hold a large amount of forests such as Malaysia and Brazil fought hard to bring in the commitments on increasing sinks (Bodansky 1993: 509). Consequently, Article 4 (1) (c) don't mention any energy efficiency measure. The mention of energy efficiency measure is limited to the preamble. Article merely states, "Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases…" (United Nations 1992). Moreover all relevant economic sectors such as energy, transport, industries, agriculture, and forestry are mentioned without prioritizing them on the basis of their carbon emission contribution. The negotiating tussle of oil-producing countries and Malaysia, Brazil had its impact even on Article 4 (1) (d). The terms of the article fail to single out the importance of forests as major sinks. The Article merely states, "Promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems" (United Nations 1992).

The specific commitments in sources and sinks set three requirements. First, Annex I parties must adopt national policies and measures to limit their greenhouse gas emissions and measures to protect and increase their respective sinks. Second, these parties are supposed to follow more stringent reporting requirements. Third, each party listed in Annex I must coordinate relevant economic and administrative instruments and periodically review their policies that contribute to increased greenhouse gas emissions. All three provisions were introduced as general commitments, but due to the objections from the developing states, they were finally included as specific commitments (Bodansky 1993).

The differences between US and other OECD members concerning targets and timetable became visible on the issue of whether to establish a separate working group to address the sources and sinks of the greenhouse gases. Other OECD members wanted to establish a separate working group as they favoured strong commitments on carbon emissions and forests whereas the United States argued in favour of single working group as it had an intention to dilute the matter and formulate the commitments that deal with sources and sinks comprehensively (Bodansky 1993: 483). Ultimately the compromise was reached in which they agreed that one working group would address the issue of sources and sinks, but its mandate should include commitments aimed at "limiting and reducing emissions of carbon dioxide and other greenhouse gases". This happened to become the first working group. Though the US registered its opposition to the language "limiting and reducing" ultimately it had to agree for the compromise.

Bargaining on Targets and Time Table

The targets and timetables were preferred over the direct international regulation and taxation by the negotiators. The direct international regulation and taxation were also discussed in the INC but were not chosen to be included in the convention. The proposal to include direct international regulation and taxation was made by Sweden, at a very early stage of the negotiations. However, very less discussion happened over this proposal. Negotiators chose to prefer targets and timetables as they were easier to be negotiated than the uniform international regulatory rules. The targets and timetable allow parties to choose how to meet overall national emission levels.

The issue consumed most of the time of negotiations in INC sessions. The Industrialized states pushed strongly in favour of the adoption of an internationally defined stabilisation targets and timetable to stabilise greenhouse gas emissions. Many OECD members unilaterally adopted national targets and timetable; the main opposition came from the United States. The division of the states during the negotiations was basically US verses rest of the states. Within OECD it was difficult to make the United States compromise on this specific issue. The United States criticised the targets and timetable as a rigid approach. Numerous strategies were used by different states individually or collectively to make the US agree, but nothing proved to be a success. UK and Japan had tried to appease the US by suggesting alternative approaches, but the US didn't change its position. The US also made the attempts to take away the attention of the states from targets and time table. During the opening of negotiations, the United States

published ‘America’s Climate Change Strategy: An Action Agenda”. This was openly criticised as ‘an inaction plan’ as this document cleared the United States opposition to targets and timetable. The US also came up with a comprehensive approach to deal with the issue of climate change in general (Brauch 2011). It implemented a set of policies for combating climate change which was not exactly combating climate change. Under these policies the US didn’t categorise the greenhouse gases and it considered all greenhouse gases together and did a trade-off of reduction in one gas for an increase in another (Paterson 2003: 54). As the chloroflourocarbons (CFCs) were already controlled or reduced by the Montreal Protocol, the United States was implying to increase its carbon dioxide emissions in this trade-off. “It was planning to increase its carbon emissions by 15% by the year 2000 within the plan” (Paterson 2003: 54). Due to the mass criticism of the approach at international level, the United States gave it up.

While finalising the language of the objectives of two working groups, the United States showed its rigid attitude towards the issue of targets and timetable. It even opposed the language of the objectives of Working Group- I, the language referred to “limiting and reducing” greenhouse gases emissions (Paterson 2003: 53). However, the language was kept as majority of states supported it. But the opposing attitude of US negotiators became visible.

Just before the beginning of the second session, the United Kingdom had informally consulted the United States on a compromise. In this compromise the UK had proposed that countries will receive credits for cutting the emissions of greenhouse gases other than carbon dioxide, they will also receive credits for increasing the sinks. However, the US maintained its opposition to the issue (Bodansky 1993: 486). Even though, UK had excluded the mention of emissions of Carbon dioxide from this compromise it had made a collective mention of greenhouse gases.

During the second session, efforts were done to bring the main opposing state and the major contributor to the greenhouse gases problem, i.e. the United States, on board so that some specific commitments could be framed for the convention. One of the major efforts towards this direction was the ‘pledge and review’ proposal of Japan. According to this approach, the industrialised countries ought to set their respective limits of emitting carbon dioxide and other gases according to their preferences within a year of the convention’s implementation. So setting up of these unilateral targets was termed as ‘pledge’ under this approach. Pledges ought to be

consisting of national strategies and response measures to limit their greenhouse gas emissions (Bodansky 1993: 486). Once the countries have set up the respective targets for themselves, then the performance of these industrialised countries vis-à-vis these 'pledges' will be periodically reviewed by an international team of experts. This international surveillance of the respective targets was termed as 'review' in the proposal's vocabulary. According to the proponents of the 'pledge and review' approach, it would serve two purposes: the unilateral pledges would be a one- way ratchets towards stricter commitments by parties, and international review process would promote transparency and accountability (Bodansky 1993: 486). Among OECD members, UK and France made similar proposals, but the other states registered their reservations about substituting internationally defined commitments with pledge and review approach.

After the second session, UK attempted to bring all states on the same page through its informal efforts. The UK attempted to persuade the states to come up with a solution for the issue of commitments. It was highly involved in persuading the US for quantitative limits of carbon emissions. It had organised a workshop during the break period, after the second session, in London under the aegis of the Royal Institution of International Affairs and was funded by the UK Department of the Environment. This workshop was attended by the delegates from many countries (Paterson 2003: 56). The copies of the report of the workshop were distributed by British delegates in the open plenary of the third session. The report was briefly discussed and never considered again. Its initiative of 'pledge and review' policy was also put in the dustbin. In order to bring the United States on board and make "pledge and review approach survive, Japan had argued that there is a linguistic difference between 'pledge' and 'targets'. 'Pledge' would have involved multilateral negotiations whereas 'targets' give a sense of imposition from above. The OECD members except for the US, had agreed to pledge and review approach. But they had argued that pledge and review should be accepted as a supplement to internationally governed commitments, not as a substitute to them (Bodansky 1993: 488). The only opposing industrialised state was the US. It didn't hesitate to be alone or isolated while opposing this approach (Paterson 2003: 58). Following this, the strategy of the industrialised states to deal with the obstacles posed by the United States was changed. Instead of attempting to appease the United States, they began to criticise its take on emission control (Paterson 2003: 60). The negotiators were optimistically hoping that the US position might change.

During the fourth session of the negotiations in Geneva, the breakdown of G- 77 happened (Paterson 2003: 58; Bodansky 1993: 488). At the beginning of this session, the G- 77 had met with success as it had agreed on general principles text which had been accepted by the majority of the states. On the second week of the fourth session, the group stumbled at the question of commitments. The OPEC states were demanding to G- 77 that it should negotiate in INC for framing weaker commitments and on the other hand, AOSIS was looking forward G- 77 to negotiate to get stronger commitments. The group found it difficult to consider both the interests. Thereby, the chair of G- 77 announced in a plenary that the group would no longer meet at the session as a group. Following this, the AOSIS and OPEC began to submit their own proposals in the negotiations. AOSIS submitted its proposal which carried stronger commitments. It included carbon dioxide stabilisation target at 1990 levels by the year of 1995 (Bodansky 1993: 489).

G- 77 resumed meeting the negotiations as a group in the fifth session. Regarding targets and time table, OPEC states backed the United States. They argued in favour of more scientific research instead of any policy formation. The issue of specific commitments vis-à-vis targets and timetables kept dominating the negotiations even during this session. The text on commitments got much longer after this session, as there were a lot of brackets in the text. The brackets in a negotiating text imply the alternative opinion. The non- governmental organisation, Eco referred to the presence of too many brackets in the text as 'Death by 1,000 Brackets' (Paterson 2003: 59). These brackets showed the differences that states were holding on the specific texts

The then-White House Chief of staff of the US, John Sununu, was considered hostile towards the issue of targets and timetable. After his removal, many were hoping that the US position would soften towards the issue, but that wasn't the case. The US kept its stand intact. Though the OECD countries were holding general agreement for the need of having specific commitments in the convention vis-à-vis quantification of carbon emissions, there were differences among them about the exact terms of the commitments. The final OECD text still contained numerous brackets. The developing states expressed dismay when the final text of OECD states had introduced in the Working Group- I. G- 77 proposed their alternative formulations (Bodansky 1993: 490).

The main opposition to the commitments on targets and timetable remained the United States, and it wasn't logical to let it stay outside the convention; not to make it a party. Bert Bolin, the then Chair of Intergovernmental Panel on Climate Change had reminded the negotiators, why they couldn't let the United States stay out of the convention in his speech during the fifth session. He made a statement to the INC Plenary during the session, while introducing the update to the 1992 IPCC Report which had been published by IPCC around that time. In his speech, he made a reference to the dangers of letting the US off the hook, stating that he was worried 'that even a very modest achievement to reduce the rate of increase of carbon dioxide in the atmosphere as aimed for by some OECD countries might be compromised by special allowance among the OECD countries' (Paterson 2003: 61). Meaning thereby letting United States walk away from signing the convention was not an option at all as it would leave the major emitter without any checks and balances.

During the resumed fifth session in April- May 1992, most of the delegates had lost hope that they can change US position for negotiating quantitative targets. US administration was able to ignore the international criticism of its stand. The formal text which was formalised with United States agreement was popularly called as American/ British text as it was formulated by the delegates from UK and US. It received criticism from most of the delegates especially from developing states (Bodansky 1993: 491). It was an ambiguous text as there was lack of agreement among the industrialised states or OECD members. The chair of the working group I himself stated while presenting the text, "The reason we have an ambiguous text here is because there is a lack of agreement among the industrialized countries. The United States has not changed its position, and is not going to change its position in the next four days. Neither is it going to change by Rio" (Paterson 2003: 62).

The US strategy of holding out on its position had, therefore, to a great extent, succeeded. The text which the negotiators ended up with was significantly closer to its preferred option than to that of the other industrialised countries. However, when we look closely, the US had moved substantially since the start of the negotiations in February 1991. At that point, it had not only been opposed to quantitative targets on greenhouse gas emissions, it had also objected both to the mention of target dates, which were finally included (although rather obliquely), and to the specific singling out of carbon dioxide as the major greenhouse gas, which they did finally

accept. In February 1991 it had wanted a full-blown comprehensive approach, which simply mentioned sources and sinks of all gases (including CFCs) in one bundle. It quickly dropped the insistence on including CFCs but maintained opposition to a specific mention of carbon dioxide. Eventually, it accepted the formulation 'carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol'. This represents a significant shift. It had also moved significantly concerning the issue of 'financial resources and technology transfer' (Dasgupta 1994: 140)

Considering the inadequacy of commitments on the implementation, the industrialised countries were prepared to propose reductions on carbon dioxide emissions in the post- Rio negotiations. The German delegation proposed for a protocol on carbon dioxide emissions (Paterson 2003: 68). Nothing proceeded on this proposal as the session remained deadlocked on the very same issue. European Union opposed the proposal by arguing that it wasn't prepared for the protocol (Paterson 2003: 68). Developing Countries opposed the proposal as they were anticipating it might impose commitments on them as well. During this period many of the industrialised countries were arguing that there is a need to strengthen the existing commitments. AOSIS had also submitted a draft of protocol in September 1994. This protocol proposed that by 2005 the emissions should be reduced by 20% from 1990 level (Paterson 2003: 69). During the final meeting of INC before the Conference of Parties (COP) meeting, the discussions of AOSIS's proposed protocol took place. Germans supported the AOSIS's protocol. It received support from NGOs as well.

Though the major battle in the context of targets and timetables was US versus the rest of the states that doesn't mean there were no minor differences among the states. States held differences in their respective opinions on the fine details of targets and timetables. For example, Finland favoured that the stabilisation targets should be framed for all greenhouse gases that are not covered in Montreal Protocol, not just for carbon dioxide. European Community supported the stabilization of carbon dioxide at 1990 levels by the year 2000. On the other hand, the United States opposed the term stabilisation itself. The United Kingdom and Japan adopted a mediating approach; they favoured best efforts rather than firm commitments to limit greenhouse gases. The ultimately agreed commitments vis-à-vis targets and timetable were in a much diluted shape if they are compared with the original proposals.

Bargaining on Joint Implementation

While negotiating the convention, negotiators were aware of the fact that climate change happens to be a borderless problem. Greenhouse gases can migrate easily from one place to another in the atmosphere. Thereby suggestions of dealing with problem jointly were pouring up during the negotiations. The suggestions were to focus on greenhouse gases on a regional or group basis, rather than country- by- country basis. Two major suggestion concerning joint implementations were: 1) setting joint targets that apply to a group of countries collectively, 2) granting credits to a party in achieving its own emissions targets for projects it undertakes in other countries. Two main rationales for joint implementation were borderless nature of climate change issue and the cost-effectiveness of the joint implementation. Due to the variations in the national conditions, the cost of greenhouse gases reduction measures can vary considerably by state. If the cost of reducing greenhouse gases emissions in lower in state A than in State B, then state B can take advantage of cost difference by funding greenhouse gases emission reduction in state A rather than attempting doing the same at home state on more cost. If state B is allowed to take advantage of the cost difference, the ultimate cost will get reduced, and the goal will also be achieved (Bodansky 1993).

The major issue that came in the forefront, while designing the system of joint implementation was the scope of application of the system. There were three major approaches suggested during the negotiations. First was to permit the joint implementation at a regional level. The second approach was to allow joint implementation among all states that are subject to specific quantitative commitments to limit greenhouse gases emissions and increase sinks. This approach specifies the scope of the joint implementation only for the developed states. The third approach was suggested by Norwegian delegation (Borione and Ripert 1994). This approach permitted joint implementation on a general basis among all states. The third approach was discussed the most among the delegates as it was economically most efficient and cost-effective approach. Since emission reductions can be achieved more cheaply in developing states than in the developed states, it would become easy for implementing the third approach. Thereby it was the most cost-effective among all approaches. The other two approaches were having regional barriers for their implementation. Moreover by implementing joint implementation in line with the third approach, would have encouraged the transfer of financial resources and technology

from developed states to the developing states (Bodansky 1993: 521). The method of implementation of third approach was perceived as an abuse of the resources in developing states. So in order to protect against the possible abuse, the proposal was kept for deciding a clear baseline from which to measure the emissions reductions in developing and developed states could count towards meeting their targets.

Critics still criticised the plan as unethical as the plan would allow the developed states to make reductions abroad instead of taking the responsibility at home. At this point, German delegate made a compromising suggestion. The suggestion was, the credit given for emission reduction in developing countries will be discounted. This was suggested to encourage the developed countries to limit the greenhouse gases domestically. They should choose joint implementation only when the cost of implementation is considerably low. So, by this joint implementation would become attractive only when the cost differential in developing states exceeds the discount rate. Finally, the proponents of the joint implementation succeeded in convincing most of the negotiators present in INC. Hence they succeeded in including the general concept of joint implementation in the convention.

Bargaining on financial and technology transfer

In addition to the issue of targets and timetables, financial resources and technology transfer issue was the most controversial issue in INC. This was the first time in international environmental negotiations that the North-South economic issue got the prominent place. The transfers of financial resources to developing states were proposed for two general purposes: (1) to offset the various costs of implementing the Convention's general commitments, and (2) to aid developing countries in adapting to the adverse effects of climate change.

The bargain over the issue of financial and technology transfer began with the debate on the choice of group. The developing states wanted to keep the issue of financial and technology transfer under the same group which would be dealing with sources and sinks, in order to keep both issues tightly linked. The United States opposed this position of developing states and argued that the issue of financial and technology transfer should be assigned to the second working group as it deals with mechanisms. So that financial commitments and mechanisms are dealt with as a package. Finally, the position of developing countries prevailed, and the issue was assigned to a first working group (Bodansky 1993: 484). The “appropriate commitments on

adequate and additional resources" was included in the mandate of the first working group. Hence the major negotiations on the issue happened in the first working group.

While doing the negotiations of decision 1/1, during the first session, the G 77 led by India demanded that the specific reference should be made to the "new and additional funding" in the set of "Guidelines for Negotiation" to help developing countries implement measures of combating climate change. US, Europe and Japan expressed frustration over this (Paterson 2003: 54). This proposal sought to secure a pre-negotiation commitment from developed states. Following farce negotiation with the United States, India had to drop its proposal. Finally, under decision 1/1 the Working Group I was directed to prepare a text "related to appropriate commitments on adequate and additional financial resources," (Bodansky 1993: 484). So the word "new" was replaced with "adequate", and the language of the decision and this fell short of India's proposal.

It was a general conception that the developing countries could reduce emissions in comparatively lower costs than the developed states. But there was also another side of the coin; the implementation cost was high for the developing states if it is compared to their respective paying capacities. Thereby the G77 argued through the latter prism and made the negotiators realise that developing states need the assistance to implement the general commitments. The OECD states accepted the argument and agreed to pay the implementation costs of general commitments in return the industrialised states demanded that the financial resources should be transferred through "appropriate financial mechanism". The question arose regarding the voluntary or mandatory basis of the financial assistance. The United States pushed for making the provisions of financial resources strictly voluntary. The developing states argued in favour of obligatory commitment. They based their argument on the promises made in Noordwijk Declaration and SWCC Ministerial Declaration both these documents state that "additional resources" should be mobilised to help developing countries take action to deal with climate change (Bodansky 1993: 525). At the end of this, the arguments forwarded by the G77 prevailed and the provisions of financial transfer to assist developing states in meeting implementation costs got included in the convention. However, no negotiations happened regarding the specification of the amount that industrialised states were to transfer to the developing states. In order to get some specification regarding the amount to be transferred to some developing

countries made an alternative proposal. According to this proposal, the developed states were required to make an assessed contribution of the specified amounts; the amount was left to be determined by the Conference of Parties. However, the proposal was not accepted.

The debate concerning "new and financial resources" was re-opened again during post Rio round of negotiations. The developing countries wanted to add the language in the provisions of article 4(3) which concerns with financial and technology transfer. The developing countries demanded the use of this language because they feared that the money to implement the convention might not be diverted from the existing developmental aid. This is why they insisted on "new and additional" words. Though most of the OECD members accepted the provision United States opposed the language till the end of the negotiations. Anyhow G- 77 managed to include the terms in the final draft of the convention in Article 4 (3).

The second concern of the debates around financial and technology transfer was the adaptation costs. This was supposed to be paid to the states that are bearing the brunt of climate change, that are affected the most be climate change. This was supposed to be paid to meet the costs of adaptation measures like building sea walls to combat sea- level rise. This was also paid to meet the costs of damages caused by global warming (Bodansky 1993: 528). During the negotiations in the INC, the adaptation costs debate captured lesser attention than the implementation costs debate. The decision to provide lesser space to this issue on negotiating tables was not completely apolitical. There was very less incentive for OECD members, who were supposed to transfer the finances. The adaptation costs would have benefitted only the states that were in receiving end, especially the small island countries. It would not have offered anything in exchange to the donors. AOSIS, being the advocate of the first line soldier states, proposed that the Convention should establish an insurance fund that would provide compensation to small islands and low lying states for the damages suffered as a result of sea-level rise. The proposal was twisted and added in a language that comforts the developed states in Article 4(8). Though nothing much came in terms of discussions and debates regarding the adaptation costs but AOSIS successfully managed to have Article 4(4) concerning the issue of adaptation costs.

Bargaining on mechanisms of financial and technology transfer

The major controversy related to the issue of financial and technology transfer was whether a convention should establish a new financial institution or should channelise the financial assistance through the existing Global Environment Facility (GEF). GEF was established in 1990 to help developing countries deal with four global environmental problems: 1) global warming, 2) pollution of international waters, 3) destruction of biological diversity and 4) depletion of stratospheric ozone layer. It is a joint project of the World Bank, UNEP, and United Nations Development Programme (UNDP). Many OECD states wanted to retain GEF as a financial mechanism for the convention, whereas G 77 argued for establishing a new "climate" fund. It doubted the domination of the North over the Facility as World Bank chairs the GEF, and it uses weighted voting. Hence, developing states proposed to establish a new institution that would operate under the collective authority of contracting parties. In the end, the North and South agreed on a compromise solution that neither establishes a new institution nor conclusively designates GEF as the financial mechanism. The GEF is entrusted with the operation of the financial mechanism only until the first meeting of the Conference of Parties (COP). It was left to COP to decide whether to designate GEF as a permanent financial mechanism or not (Bodansky 1993: 539).

There was an ambiguity in the relationship between COP and the financial mechanism. If GEF would have continued to be the financial mechanism, then the relationship would have been problematic as GEF has a governance structure independent of the Convention. This is why the OECD states wanted to maintain GEF as the financial mechanism to channelise the financial and technology transfer. In contrast, the developing states wanted a financial mechanism that works under the supervision of the Conference of Parties. In order to give a mid-way solution, the convention has distinguished between general policy guidance and specific funding decisions. Under Article 11, the COP is authorized to decide on policies, programme priorities, and eligibility criteria but it is not authorised to decide upon the project selection. The developing countries wanted to authorise COP for project selection. Here the position taken by industrialised states prevailed. AOSIS had proposed to insert a phrase in article 11that would have included the compensation for adaptation costs within this article. However, the proposal was successfully opposed by the United States.

The Framework Convention: The Finalized Content

The convention can be separated into four major parts. The first part consists of introductory provisions such as definitions, principles, and objectives of the convention. The second part consists of commitments relating to the sources and sinks of greenhouse gases, financial and technology transfer, scientific cooperation, public information and education. The third part consists of institutional and procedural mechanisms to implement the convention. Fourth and the final section deal with matters such as an amendment, ratification, protocol and annexes, entry into force. The first two parts of the convention will be discussed in this section in detail. The third section will be discussed only in the context of the financial mechanisms, and final part will be excluded from this section of the study.

Definitions, Objectives, and Principles

The first article of the convention consists of a brief list of terms and their definitions. These are the terms that can bring ambiguity while interpreting the convention. The convention has adopted definitions for the terms such as "climate change", "climate system"," emissions", and "greenhouse gases", "regional economic integration organisation", "reservoir", "sink" and, "source" Climate change is defined as changes in the climate that are "attributed directly or indirectly to the human activities" and are "in addition to natural climate variability". The term "emissions" is defined broadly to include the release of both the greenhouse gases and precursors of the greenhouse gases. The definition of "greenhouse gases", in the convention doesn't exclude the gases controlled under the Montreal Protocol (United Nations 1992).

The opening section of the convention doesn't include the usually written preamble, but it also set forth the ultimate objective of the convention, and the general principles, in order to guide the parties in implementing its provisions (Bodansky 1993: 497). Preambles to international agreements generally state the background, purposes and the context of the agreement. Unlike the tradition, the preamble of the framework convention makes reference to several existing and emerging concepts of the international environmental law. This includes principle 21 of the Stockholm Declaration; climate as a common concern of mankind, and the principle of inter-generational equity. Paragraphs in preamble also address the concerns of the developing states regarding historical responsibility.

The finally negotiated preamble had successfully managed to balance the concerns of both developing and the developed world. The principle of "main responsibility" and "no regrets" both managed to get a place in the preamble to certain extend. The principle of main responsibility was proposed by G- 77, whereas the principle of no regrets came from industrialised countries.

The second article of the convention establishes the objectives of the convention as stabilisation of greenhouse gas concentrations "at a level that would prevent dangerous anthropogenic interference with the climate system". In terms of the time table, the Article states, such a level should be achieved "within a time frame sufficient to allow the ecosystem to adapt naturally to climate change" (United Nations 1992). Though the objective recognises climate change as a problem and as a matter of international concern, it fails to provide concrete targets and timetable. The language of the objective was mostly US/ UK text, which was negotiated in the inter-sessional meetings before resumed fifth session. Article 2 states:

> The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner (United Nations 1992).

The language of the text appears to favour both preventive as well as adaptive approach. The words "stabilisation of greenhouse gas…….would prevent dangerous anthropogenic interference with the climate system" favors preventive approach and the language "such a level…….in a sustainable manner" explicit the adaptive stand. The absence of concrete time table and targets in the objective makes the convention more of a framework convention by its nature.

Article 3 of the convention consists of the principles. The section was included on the popular demand coming from G- 77. The developing states argued that a section on principles would serve as a guide for the parties in developing and implementing the convention (Bodansky 1993:

501). The developing states wanted to establish a new tradition of having a section on general principles in the international agreements hence they proposed the section. Whereas the developed states opposed the inclusion of the section. The developed states, in general, questioned the need of including a section on principles. The US in particular questioned the legal status of this section (Bodansky 1993: 501).

The finally adopted first principle in the third Article of the convention reiterates several concepts that are written in the preamble. Such as, inter- generational equity, the principle of common but differential responsibility and respective capabilities. The second half of the principle states the leadership role of the developed world in combating climate change. The language is kept neutrally balanced in order to keep North and South on the same page. The second principle recognised the need of paying extra attention towards the most vulnerable parties to climate change. The other four principles were added to the convention after negotiating them in great detail. The second principle acknowledged the vulnerability of the Small Island and low lying states. The third principle is a precautionary principle; it says: "The Parties should take precautionary measures to anticipate, prevent or minimise the causes of climate change and mitigate its adverse effects" (United Nations 1992: 4). The fourth principle recognises the sustainable development principle. The fifth and final principle addresses the relationship between environmental measures and trade.

Commitments

Second major section of the convention is devoted to the commitments. Following the principle of common but differential responsibilities, the convention frames differentiated obligations for the developed and developing states. The commitments are organised in a very sophisticated structure. They can be broadly divided into three sections. The first section includes general obligations that apply to all parties of the convention. The second section includes specific obligations on sources and sinks. These obligations apply to OECD member states and former Eastern bloc members. These states are listed in Annex I. The third section deals with specific commitments on financial resources and technology transfer. These commitments apply to the parties listed in Annex II. The OECD member states are listed in Annex II. The general obligations were qualitative, not quantitative in nature. They include issues such as greenhouse gas inventories, national strategies, reporting, cooperation in scientific research and, information

exchange. The convention possesses the specific commitments that pose obligation on OECD states.

The classes of parties are mentioned in Annex I and Annex II. There were different proposals from developed, developing and AOSIS states. These proposals suggested the categorisation by different definitions. INC decided to use annexe list rather than vague definitions to divide classes of parties.

In terms of general commitments, there was a long list of general commitments at the beginning of the negotiations. There were few to survive the heated debates of the negotiations. Most of them survived were designed to promote long-term national planning and international review of national actions. Article 4(1) demands each party to develop a regular update and, publish national inventories of greenhouse gas emissions and, removal of sinks. These inventories are to lay the basis for national planning and to provide more accurate information for use in future scientific assessments of the greenhouse problem. Each party must also formulate, implement, and regularly update programs to mitigate and adapt to climate change and communicate information to the COP on its national inventories and the steps it has taken to implement the Convention. The COP is then to review the national reports and assess the parties' implementation, the overall effects of the measures taken pursuant to the Convention, and the progress towards meeting the Convention's objective.

The specific commitments provisions vis-à-vis sources and sinks set forth three requirements relating to sources and sinks. First, each party listed in Annex I must adopt national policies and measures to limit greenhouse gas emissions and to protect and enhance its sinks and reservoirs. Second, Annex I parties are subject to more stringent reporting requirements, both in terms of timing and content. They must communicate initial reports within six months of the Convention's entry into force, whereas other parties have three years to complete their reports. Finally, Annex I parties must coordinate relevant economic and administrative instruments and identify and periodically review their policies and practices that contribute to increased greenhouse gas emissions.

In terms of targets and time table, a compromise was finally reached in two highly ambiguous subparagraphs of Article 4(2). The article states that developed countries are to adopt and report national policies to limit emissions and enhance sinks with the aim of returning to

1990 emissions levels. There is an ambiguity in the target as the term written in the clause is "retuning" not "stabilizing", This can be interpreted as, states are allowed to increase their emissions if the achieve 1990 target once. Same wouldn't be the case if "stabilizing" would have been written there. The timetable is also ambiguous. The convention states that the developed states recognise that a return by the year 2000 to earlier emissions levels, the year is not specified here, would contribute to a modification on longer-term emissions trends. Scholars have put article 4(2) under question marks by calling it quasi- targets and quasi- timetables article. The questions are also raised around its legally binding character as the convention uses less obligatory language. Article 4(2) states that the parties "shall" adopt national policies and take corresponding measures to mitigate climate change, and "shall" communicate information on these policies and measures and on resulting projected emissions (United Nations 1992). The choice of the term "shall" makes the provisions less obligatory. The ambiguous formulation of the article may allow states to twist it on their requirements. Though the convention doesn't establish concrete targets and timetable it does provide for the periodic review of the adequacy of established ambiguous targets and timetables.

The concept of joint implementation has been included in the convention. The convention states that "efforts to address climate change may be carried out cooperatively by interested Parties… implement policies and measures jointly with other Parties" (United Nations 1992). The provisions of the convention do not restrict the joint implementation on any basis. It has been kept open on a general basis. In order to safeguard the possible abuse of the provision by the developed parties, the convention provides that "the Conference of Parties shall, at its first session, take decisions regarding the criteria for joint implementation". The provision was added to include the German suggestion of discounting the credits given for emission reduction achieved through joint implementation.

The provisions concerning financial and technology transfer has been divided into two parts. The first part deals with the provisions that are related to implementation costs and the second part deals with the provisions concerning adaptation costs. The provisions concerning implementation costs are mentioned in article 4(3) and article 12(3) of the convention. The provisions regarding adaptation costs find their mention in article 4(4) and 12(3) of the convention. The article 4(3) mentions that the "Parties included in Annex II shall provide "new

and additional financial resources to meet the agreed full costs incurred by developing states" (United Nations 1992). So, there is a mention of "new and additional resources" which was consciously twisted to "new and adequate resources" for the mandates of working group one. The article further states that the Annex I Parties "shall provide such financial resources, including for the transfer of technology…..to meet the full incremental costs of implementing measures that are covered in Paragraph 1 of this article" (United Nations 1992). There is an important provision in this article which says, "The implementation of these commitments shall take into account the need for adequacy and predictability in the flow of funds" (United Nations 1992). This provision allows the developed countries to determine for itself the size of its financial contribution (Bodansky, 1993: 525).

The provisions concerning adaptation costs are added in article 4(4) in addition to that there is a reference to the proposed insurance in article 4(8). It says- "the Parties shall give full consideration to what actions are necessary under the Convention, including actions related to funding, insurance, and transfer of technology," (United Nations 1992). So the proposal got its place not as an obligation but in very loose terms. Article 4(4) was added in very direct terms and without much discussion on it. Though it clearly makes mention of the beneficiary states the article is silent on the details of funding. The language of the article differs from that of article 4(3) which has mentioned: "agreed full incremental costs".

The provisions of financial mechanisms are referred under article 11 of the convention. The article permits the COP to authorise any existing international entity to operate as the financial mechanism. It designates GEF as an interim financial mechanism. It provides that the financial mechanism is to "function under the guidance of and be accountable to the COP". It suggests something in between authority and guidance but remains unclear on the exact obligations of the financial mechanism (Bodansky 1993: 540).

Conclusion

The INC's structure was negotiated in detail during the first and second session of the INC. The discussions around the structure didn't happen devoid of the politics. States wanted to elect the chairs and vice chairs according to their political comfort. The mandates of the working groups were also negotiated thoroughly. The North-South differences were visible even while negotiating over the mandates. Both the sides could agree on some middle ground and give

mandates to the respective working groups. The structure remained unaltered for a major part of the negotiations. It was altered only in the end of the negotiations; during the resumed fifth session of the INC. It was altered in order to catalyse the process of negotiations.

The various aspects of climate change negotiations got their respective places in the debates that happened in INC. The issues were resolved to a certain extent one by one. The view points of the negotiators were considered and were accepted as much as it was possible to reach a common denominator. The issue of targets and time table dominated the negotiations before Earth Summit whereas the issue of financial and technology transfer got a major place after Earth Summit. The issue of targets and timetable received major attention as the United States was not at all ready to change its position. The US didn't hesitate even to get isolated; it kept on insisting its opposition to include concrete targets and timetable in the convention. However, other participating states were willing to have a section on targets and timetable, but they held the differences on the specific details of those targets. In the end, a section was added concerning targets and timetable but in a much-compromised way. It didn't specify the numbers. Another contentious issue to come across the negotiating tables was the issue of financial mechanisms. The developing and developed states held opposite positions on the issue. A number of heated debates were held to reach a middle ground on the issue. Consequently, a position was taken which more or less favoured the Global North.

All sections of the convention were carefully debated, the terms were chosen very consciously. The contending positions were reconciled and included very intelligently.

Chapter 5

Conclusion

This study has examined the respective roles of the major negotiating groups while negotiating the United Nations Framework Convention on Climate Change (UNFCCC). Four major groups were selected for this study; the selected groups are Organization for Economic Cooperation and Development (OECD), Group of 77 (G-77), Organization of the Petroleum Exporting Countries (OPEC) and, Alliance of Small Island States (AOSIS). These groups have played a prominent role while negotiating the framework convention on climate change.

Since the beginning of the industrial revolution, the concentration of the carbon dioxide gas has been rising rapidly in the earth's atmosphere. As carbon dioxide is a greenhouse gas, the excessive concentration of the gas in the atmosphere is causing global warming. In the beginning, industrial activities were happening only in European countries. As these activities provide economic benefits to the states, hence they are being adopted by developing states throughout the globe. This results in greater emissions of the greenhouse gases in the atmosphere and speedy global warming.

There are greenhouse gases like carbon dioxide in the earth's atmosphere that absorbs the heat radiations and reradiate them back towards the earth surface. Major greenhouse gases in the earth's atmosphere are water vapour, carbon dioxide, nitrous oxide and ozone. The concentrations of these gases were naturally balanced in the earth's atmosphere before the advent of the industrial revolution. The presence of a balanced concentration of greenhouse gases kept the planet habitable. Without the naturally balanced presence of the greenhouse gases, the home planet would have been starkly cold to live. The equilibrium of the natural greenhouse effect was disturbed at the dawn of the industrial revolution. Before the industrial revolution, the concentration of the greenhouse gases remained mostly unaffected thereby the increase or decrease in their concentration was never at extreme ends so was not the planet's temperature. After the industrial revolution the concentration of greenhouse gases, more specifically carbon dioxide, increased exponentially and led to the imbalance in the naturally balanced phenomenon of the greenhouse effect.

The industrial revolution began in the late 1700s in Britain and gradually happened in other European countries like France and Germany. The major difference between production of goods in the pre-industrial and industrial periods was that the specially designed machines of industrial period needed coal as a fuel to work and burning of coal resulted in the emission of carbon dioxide, a greenhouse gas, in the atmosphere. The effects of carbon emission on the global climate were not known at the beginning of the industrial revolution. They were identified much later.

It was in 1896 the effects of these gases on earth's climate were studied for the first time by a Swiss Chemist Svante Arrhenius. He gave the theory of greenhouse effects. In this study, the effect of changing concentration of the carbon dioxide in the earth's atmosphere was calculated. This study concluded that the doubling of the carbon dioxide concentration in the atmosphere would lead to a rise in the earth's average surface temperature by 5-6 Kelvin. Though the study has identified the heat radiation capabilities of greenhouse gases, the lack of experimental resources made it difficult for other scientists to investigate the phenomenon further. With the establishment of observatories in the late 1960s and early 1970s, it became possible to trace the concentration of carbon dioxide in the atmosphere. This led the further scientific enquiry of the atmospheric consequences of carbon emission because of industries activities. Scientists studied the phenomenon rigorously. As scientists began to observe and study climate change, they also began the sensitisation of the issue. They did so by holding seminars, conferences and symposiums. Firstly scientists attempted to sensitize the scientific community about the issue. They did not attempt to sensitize the political and civil communities. It was in 1979 First World Climate Conference was organised. Scientists attempted to make political establishments aware of the global climate change issue through this conference. The conference did not receive much participation of the political leaders.

Climate change issue entered the realm of policy- making between 1985 and 1988. In 1985 the Villach Conference happened. The conference reached a new set of policy conclusions and emphasised the urgency of the issue. Villach Conference was a significant milestone to the journey of climate change issue from the realm of scientists' tables to the policy-making round tables. In the period following the Villach workshops, the issue of climate change had captured the attention both in media and in international policy agenda. Although the efforts of scientists

were overwhelmingly significant in making climate change an international agenda, the contributions by the pro- active efforts of international bureaucrats, media, literature, and 1988's summer drought and heat waves made a significant contribution as well.

The year of 1988 marked itself as a watershed in the emergence of climate change as international agenda. Until 1988, the issue was majorly dominated by environmentally oriented scientists. The government began to play a greater role hereafter. Countries began to sensitise the political bodies by hosting the conferences either individually, or collectively. These conferences set the stage for the political negotiations. They prepared the political establishments, made them aware and sensitised them over the details of the issue. The conferences such as Toronto Conference, Hamburg Conference, Hague Conference and, Noordwijk Conference set the stage for the political negotiations of the framework convention on climate change.

Canada happened to be the first country to sponsor an international conference on Climate Change in Toronto from June 27 to 30, 1988. The Conference sought to bridge the gap between scientists and policymakers. The conference statement recommended as initial actions: (1) a twenty percent reduction in global carbon dioxide emissions by the year 2005; (2) development of a comprehensive global framework convention to protect the atmosphere; and (3) establishment of a World Atmosphere Fund partly financed by a tax on fossil fuel consumption in industrialized countries. The next conference to be hosted was the Hamburg Conference. It happened parallel to the first meeting of IPCC hence received very less political attention. The debates in this conference were fuelled by the results of studies on the effects of rising temperature on the resources such as water, energy, agricultural resources. The conference called for concrete international action to control the global climate changes. It also cautioned about the political tussle among stake holding countries to be an obstruction in building international consensus. In 1989, Netherlands, France, and Norway jointly sponsored a conference in Hague. This conference witnessed not only sharp division between Global North and Global South but also division within Global North.

Since the early 1980s, a division within Global North was visible. The economic cost for the US was supposed to be the highest as it is the largest carbon emitter in the world. The US argued for further scientific research, whereas other western countries prioritised curbing greenhouse gas emissions over the economic dimensions. The Hague Conference Declaration was a very radical document it suggested to establish a “new institutional authority” to preserve

Earth's atmosphere and combat global warming. The decision making procedure of a new international authority proposal invited criticism from the majority of the countries as it called for non- unanimous decision making which means a partial renunciation of sovereignty. Nevertheless, this Conference was regarded as the new dawn for climate change issue as it received large participation from political bodies and made it clear that the climate change is new international political agenda. Noordwijk Conference was convened by the Netherlands in 1989, and it was attended by the delegates from sixty-six countries. For the very first time, the participation received for the conference was roughly equal from both, developing and the developed world. This was the first high-level political meeting focusing exclusively on the climate change issue. The declaration document of this conference managed to reflect the international and domestic political stakes of the states for curbing the climate change or resolving the climate change issue. It also set forth the general aim of limiting or reducing emissions and increasing sink for greenhouse gases to a level consistent with the natural capacity of the planet, within a time frame sufficient to allow ecosystems to adapt naturally to climate change. These conferences altogether had set the stage for the climate change negotiations. The debates and discussions of these conferences had carved out various aspects of climate change negotiations.

In September 1990, UNEP and WMO convened an open-ended ad hoc working group of government representatives to decide the ways, means, and modalities for the negotiations. The group recommended that a single negotiating process should be established to discuss both policy issues and legal instruments. The participants were having major disagreement among themselves on who should organise and conduct the negotiations. The group of developed states wanted the negotiating committee to work under the auspices of WMO and UNEP whereas the developing countries wanted the negotiations to happen under the umbrella of UN General Assembly. The developing countries saw climate change as a developmental issue rather than only an environmental issue. They were not assured of whether their concerns would be addressed by a negotiating committee that would work under the auspices of WMO and UNEP. That is why they wanted the issue to be negotiated by a political body like the UN General Assembly. As a result, in December 1990, during the forty-fourth session, UN General Assembly stated in a resolution that the UNGA was “the appropriate forum for concerted political action on global environmental problems”. During the same session on December 21, the General

Assembly adopted another resolution to establish the INC as "a single intergovernmental negotiating process under the auspices of the General Assembly". Thereby, the Intergovernmental Negotiating Committee (INC) was formed under the auspices of UNGA. The position taken by the developing world was implicitly accepted by UN General Assembly and kept the INC under its supervision. However, WMO and UNEP were invited to make "appropriate contributions" to the negotiating process.

The groups such as European Community (EC), Canada, Australia and New Zealand (CANZ), Nordic Council, Organization for Economic Co-operation and Development (OECD), G-77 and China, Organization of the Petroleum Exporting Countries (OPEC), Alliance of Small Island States (AOSIS), Kaula Lumpur Group participated in the negotiations of the framework convention. OECD, G- 77 and China, OPEC and AOSIS are chosen for this study as they represented diverge position. As the study focuses on negotiation on the issues of targets, timetables, financial resources and technology transfer, these groups were having high stakes in these issues. These groups played an active part in negotiating various provisions of the convention. OECD represented the economically developed states in the negotiations. G- 77 and China negotiated on behalf of the developing states. The developing states had decided to come under the banner of G- 77 as they had prioritised their developmental cause. Since G- 77 and China could not serve the diverging interests of various countries within its members, the other groups like OPEC and AOSIS began to participate separately. OPEC participated to protect the interest of the oil-producing developing countries, and AOSIS to protect the interest of the small island states. They began to put forward the formal proposals of their own on the floor of INC.

As mention before, certain major aspects of the negotiations emerged even before the formal negotiations on climate change began in the process of discussion in various conferences. The states were in constant dialogue with each other and various groups put forward their opinions vis-à-vis different aspects of climate change.

First major aspect is classes of parties. Developing states had made it clear during the Noordwijk Conference that they are not going to leave aside the developmental question while dealing with climate change issue. They opined that since the developed states have already economically developed themselves by burning enough of fossil fuels, now it is their turn of

development and they should not be stopped. They demanded differential treatment to them, keeping in view their development needs, while negotiating an agreement on climate change.

The second major aspect of climate change negotiations is the issue of sources and sinks. Sources indicate the sources of carbon dioxide and other greenhouse gases emissions. Since the dawn of industrial revolution, numerous industries had become the sources of greenhouse gases as the usage of coal and petrol- products had been increasing exponentially in these industries. In order to combat the climate problem, the very first step countries were supposed to take was to limit and cut down the sources of greenhouse gases including carbon dioxide. The term "sink" is used in its metaphorical sense for the tree covers as the trees inhale the carbon dioxide and act as a carbon dioxide sink. Huge amount of deforestation had happened during the industrial revolution in the European countries which had caused the climate change problem in two folds. First, as the countries had cut forests extensively in order to clear the land for establishing industries, it had reduced the sink of already existing carbon dioxide in the atmosphere. Secondly, the industries that were established were also using coal as a fuel and carbon dioxide was being emitted from these industries. So they had increased the amount of carbon dioxide enormously. The cutting of forests had happened across the globe for various other developmental activities. Thereby it had become vital for states to re-establish the sinks as a solution to the climate problem. So, one of the aspects of the negotiations and debate was the issue of preventing deforestation and promoting reforestation.

The third major aspect of climate change negotiations was the issue of targets and timetable. In the context of climate change negotiations, the term "targets" means quantitative limitations on emissions of the greenhouse gases and "timetable" means the fixed period within which these targets are to be achieved. The targets and timetable vis-à-vis framework convention had gained enough controversy even before the negotiation had begun and it also remained to be the most controversial issue area during the negotiations. The controversy had its linkage with the stiffness of states like the United States refusing to reduce production and the usage of coal as a fuel in industries. At the same time, it was not possible to move forward without having the major carbon emitter on board. Often targets and timetable issue became a battle between the United States and the rest of the world.

The fourth major aspect of the climate change negotiations was financial resources and technology transfer. The issue was central to the North-South bargain. It had caught fire in

Noordwijk Conference as South had drawn the bottom line for negotiations around this issue during this conference. Both the Noordwijk Declaration and the Second World Climate Conference (SWCC) Ministerial Declaration stated that "additional resources" should be "mobilised" to help developing countries take action to deal with climate change.

Major negotiating groups had opinions vis-à-vis these aspects of the climate change issue. The OECD members together shared the largest amount of greenhouse gases emissions. Thereby they were expected to initiate the proceedings of resolving the problems arising due to climate change. OECD members never had any problem with the institutionalised mechanism of resolving the said problem. They always advocated the strong process to address climate change through the institutionalised mechanisms. OECD members accepted the demand of differential treatment to the developing states. Hence the parties were divided into two broader categories. They also recognised the need for reducing sources and enhancing sinks. The demand for financial resources and technology transfer was accepted. The only issue that caught controversy even before the formal negotiations had begun was the issue of targets and timetable. It created a split among OECD members. All OECD members except the United States favoured targets and timetables. So the major difference on this issue made the United States adopt a different position from that of the rest of members of OECD. The European members of the OECD were highly critical of United States' approach and preferred a strict quantified target to be included within the convention. The United States alone was responsible for one- quarter of the global total of the greenhouse gases emissions. These emissions were not happening from some wasteful activities that the country could have possibly agreed to compromise. Rather it was happening from the core industries of the United States and shutting them down due to climate change concern would have impacted the economic interest very gravely. To protect its industrial activities, the United States seemed to have taken a stiff position towards any sort of commitment to reduce greenhouse gas emission.

Global North and South did not see the climate change issue from the same vintage. They were framing their interests in their bounded rationalities. When the Global North tended to see climate change as an environmental issue, the Global South cried foul and called it a developmental issue. So, picking up threads from economic context, it was logical enough for G-77 to keep the developmental issue as the pivot of its negotiating bargains. Developed world had already got ahead in terms of economic development through industrialisation and by emitting

carbons. When the Global South also began to follow the Global North and set itself on the journey of economic development, then the Global North realised the environmental cost of the same developmental model. G- 77 tended to negotiate agenda by agenda and not to compromise on the economic front.

The developing countries had made it very clear at the outset of the negotiations that developing countries would not accept any quantitative limitations on their greenhouse gas emissions. They have been vocal about their stands on this issue during the Noordwijk Conference. They all have chosen to negotiate through G- 77, which was already negotiating for developmental cause in UNCTAD. Hence, the developing countries had prioritized developmental cause. But during the process of negotiations G- 77 could not serve the diverging interests of OPEC and AOSIS member states. The major economic interest of the OPEC states lied in exporting the crude oil. Crude oil causes carbon emissions, the export of the oil could have been reduced in order to cut down the carbon emission sources. OPEC negotiated on the behalf of oil producing countries in order to save their economic interest as export of crude oil happen to be the major economic activity of its members. It always questioned the science of climate change and asked for more scientific research on climate change. The issue that bothered the group the most during the negotiations was the issue of targets and timetable as it could have hampered the economic interest of its member states.

The AOSIS was the only group that was formulated for the sole purpose of climate change negotiations. The group came into being during the Second World Climate Conference in 1990. Since small island states are the most vulnerable states to climate change, they face existential crises because of climate change. These states were in favour of negotiating target oriented convention from the very beginning. It took a strong position favouring the sources and sink issue. It also opined very strongly in favour of targets and timetable issue. It was during the fourth session of INC, in December 1991, when AOSIS and OPEC began to put forward their respective proposals.

The negotiations of the framework convention happened in five sessions. The first two sessions were devoted for finalising the structure of INC. Two working groups were formulated, and separate mandates were provided to each of these groups. The rationale for forming only two Working Groups was that the most of the developing countries had sent only two delegates for the negotiations so it would be difficult for the delegations from developing world to keep track

of every aspect of the negotiations if there would be more number of Working Groups. All aspects of the framework convention were deliberated in detail and negotiated consciously. The groups put up their positions and debated intensely in order to serve the interests of their member states.

The preamble of the convention was finalised after having a heated debate in INC. Each and every word was carefully chosen for the preamble. In the negotiations of the preamble, the developing states successfully included the provisions of their interests in the third paragraph of the preamble. The third paragraph of the preamble incorporated their concern of the share of greenhouse gas emissions of the developed countries. It also highlights the relatively low share of greenhouse gases emissions of the developing countries. It states, "The largest share of historical and current global emissions of greenhouse gases has originated in developed countries". The paragraph also mentions the differential treatment to developing states, as it says "the share of global emissions originating in developing countries will grow to meet their social and development needs". The G- 77 wanted to include the principle of "main responsibility" in the preamble but could not succeed.

Indian delegation proposed the per capita emission proposal. The proposal was supported by the rest of the G- 77 members. This proposal was introduced with the intention of highlighting the principle of common but differential responsibilities in the preamble, but it was neutralised by negotiators of OECD countries in order to save their interests. Another principle to get a place in the preamble on popular demand of developing states was the principle of sovereignty. The principle was reaffirmed in the preamble, though developing states wanted to include the principle in Article 3 of the convention which is devoted to the principles.

Article 3 of the convention, which is devoted to principles was also thoroughly negotiated and debated in INC. The states from the Global South wanted to include various principles in the convention such as the principle of sovereignty in this article. In contrast, the developed states opposed the presence of a section on principles. It didn't want any specific section on principles at all. Both the groups were standing on opposite positions for including or excluding a section on principles. Global South wanted to establish new precedence by including the section for the formation of new international law, and the developed countries didn't want to set such precedence. Anyhow the Global South succeeded in having a section on principles in the convention. It also succeeded in including the principles of its choice to a certain extent.

Another major section of the convention is devoted to the commitments. Following the principle of common but differential responsibilities, the convention frames different commitments for the developed and developing parties. The obligations are arranged in a very sophisticated manner. They can be broadly divided into three sections. The first section includes general obligations that apply to all parties of the convention. The second section includes specific obligations on sources and sinks. These obligations apply to OECD member states and former Eastern bloc members. These states are listed in Annex I. The third section deals with specific commitments on financial resources and technology transfer. These commitments apply to the parties listed in Annex II. these are the member states of the OECD. The general obligations were qualitative, not quantifiable in their nature. They include issues such as greenhouse gas inventories, national strategies, reporting, cooperation in scientific research and, information exchange. The convention possesses the specific commitments for the members of OECD. A set of specific commitments was also proposed for the developing states initially, but it was abandoned at the later stage of the negotiations as developing states opposed to abiding by any kind of specific principles. Thereby the convention mentions the specific commitments only for developed states of OECD.

The commitments vis-à-vis sources and sinks were general as well as specific in nature. The general commitments concerning sources and sinks were weakened in comparison to the original proposal. The oil-producing states objected the regulations of the sources whereas the states that hold a large number of forests such as Malaysia and Brazil fought hard to bring in the commitments on increasing sinks. The specific commitments in sources and sinks set three requirements. First, Annex I parties must adopt national policies and measures to limit their greenhouse gas emissions and measures to protect and increase their respective sinks. Second, these parties are supposed to follow more stringent reporting requirements. Third, each party listed in Annex I must coordinate relevant economic and administrative instruments and periodically review their policies that contribute to increased greenhouse gas emissions. All three provisions were introduced as general commitments, but due to the objections from the developing states, they were finally included as specific commitments for Annex I parties.

The issue of targets and timetable consumed most of the time of negotiations in INC sessions. The Industrialized states pushed strongly in favour of the adoption of an internationally defined stabilisation targets and timetable to stabilise greenhouse gas emissions. Many OECD

members unilaterally adopted national targets and timetable. The main opposition came from the United States. The division of the states during the negotiations was US versus rest of the states. Within OECD it was difficult to make the United States compromise on this specific issue. The United States criticised the targets and timetable as a rigid approach. Numerous strategies were used by different states individually or collectively to make the US agree, but nothing proved to be a success.

The issue of joint implementation was not discussed before the negotiations. It never came up in the conferences that held before the negotiations in INC. It surfaced while negotiating in INC. There were three major approaches suggested during the negotiations. First was to permit the joint implementation at a regional level. The second approach was to allow joint implementation among all states that are subject to specific quantitative commitments to limit greenhouse gases emissions and increase sinks. This approach specifies the scope of the joint implementation only for the developed states. The third approach was suggested by the Norwegian delegation. This approach permitted joint implementation on a general basis among all states. The third approach was discussed the most among the delegates as it was economically most efficient and cost-effective approach. Since emission reductions can be achieved more cheaply in developing states than in the developed states, it would become easy for implementing the third approach. Thereby it was the most cost-effective among all approaches. Moreover by implementing joint implementation in line with the third approach, would have encouraged the transfer of financial resources and technology from developed states to the developing states. Hence it was successfully included in Article 4 of the convention.

In addition to the issue of targets and timetables, financial resources and technology transfer issue was the most controversial issue in INC. This was the first time in international environmental negotiations that the North-South economic issue got the prominent place. The transfers of financial resources to developing states were proposed for two general purposes: (1) to offset the various costs of implementing the Convention's general commitments, and (2) to aid developing countries in adapting to the adverse effects of climate change. It was a general conception that the developing countries could reduce emissions in comparatively lower costs than the developed states. But there was also another side of the coin; the implementation cost was high for the developing states if it is compared to their respective paying capacities. Thereby the G- 77 argued through the latter prism and made the negotiators realise that developing states

need the assistance to implement the general commitments. The OECD states accepted the argument and agreed to pay the implementation costs of general commitments in return the industrialised states demanded that the financial resources should be transferred through "appropriate financial mechanism". The question arose regarding the voluntary or mandatory basis of the financial assistance. The United States pushed for making the provisions of financial resources strictly voluntary. The developing states argued in favour of obligatory commitment. They based their argument on the promises made in the Noordwijk Declaration and SWCC Ministerial Declaration. Both these documents state that "additional resources" should be mobilised to help developing countries take action to deal with climate change. At the end of this, the arguments forwarded by the G- 77 prevailed and the provisions of financial transfer to assist developing states in meeting implementation costs got included in the convention.

The negotiators could negotiate the framework convention successfully. This convention happens to be the base of current climate change negotiations. However, they failed to bring as strong convention as was expected before the negotiations had begun. Negotiators had expected to come up with concrete targets and timetables, but they failed to do so. The developing states had also entered the negotiations with certain expectations. They had prioritised their developmental cause and wanted to ensure the inclusion of financial and technology transfer principle. The principle was included in the convention. In addition to this, G-77 wanted to establish the mechanism of financial and technology transfer under UNFCCC which was opposed by OECD and existing mechanism GEF was decided to be the financial mechanism.

The research question, 'How has the UN played a role in terms of facilitating multilateral processes involving bargaining by major negotiating groups?' This question has been attempted to answer in the second chapter on *Climate Change as an International Issue*. The question has been attempted to answer in the sub-heading on "Initial Initiatives of the United Nations". The second research question on 'What were the negotiating stands of major negotiating groups and individual countries in the INC negotiations?' has been answered in the sub-heading on "Negotiating Stands of the Groups" in the third chapter. The third research question on 'How major negotiating groups influenced the negotiating process facilitated by UN at the INC leading to the outcome in the form of the United Nations Framework Convention on Climate Change?' has been attempted to answer in the sub-heading on "Bargaining among the Major Groups" in

the fourth chapter. This chapter also seeks to answer the fourth research question on 'How did the United Nations reconcile the interests of various major negotiating groups and whether UN provided a level playing field to the participants?' The answer to this question been discussed while deciding about the forum for negotiation as well as the structure and processes of INC.

This study confirms both the hypotheses that had been presented in the beginning. The first hypothesis is, "The UN has been able to facilitate a process that has accommodated the positions of major negotiating groups which is reflected in the United Nations Framework Convention on Climate Change". This hypothesis is substantiated in the fourth chapter.

The second hypothesis is, "The uncompromising attitude of the states vis-à-vis their national interests has made it difficult for major negotiating groups to influence the outcome in terms of specific national policy measures to be taken by member states for addressing the issue of climate change." The United States adopted the uncompromising attitude concerning the issue of targets and timetables. It did so as there was major economic interest at stake. The same attitude was adopted by the OPEC states regarding targets and timetables. Yes, this affected the outcome document and made it difficult for the negotiating groups to include concrete targets and timetables in the outcome document. This hypothesis is also substantiated in the fourth chapter.

In the process under INC, the negotiations and outcome document formulations both were done simultaneously, which is generally not done. Usually, the tentative document is formulated first then it is debated and negotiated. But under INC both the jobs were done simultaneously that too within a fixed timeframe. Initial sessions were largely devoted to decide on the structure of INC. Most of the negotiations were done in fourth and fifth session. The further research is needed to be done on this topic, specifically focusing on North- South equations. The research can also be done by focusing particularly on aspects such as targets and timetables, financial and technology transfer.

Appendix 1. United Nations Framework Convention on Climate Change

The Parties to this Convention,

Acknowledging that change in the Earth's climate and its adverse effects are a common concern of humankind,

Concerned that human activities have been substantially increasing the atmospheric concentrations of greenhouse gases, that these increases enhance the natural greenhouse effect, and that this will result on average in an additional warming of the Earth's surface and atmosphere and may adversely affect natural ecosystems and humankind,

Noting that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs,

Aware of the role and importance in terrestrial and marine ecosystems of sinks and reservoirs of greenhouse gases,

Noting that there are many uncertainties in predictions of climate change, particularly with regard to the timing, magnitude and regional patterns thereof,

Acknowledging that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions,

Recalling the pertinent provisions of the Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm on 16 June 1972,

Recalling also that States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction,

Reaffirming the principle of sovereignty of States in international cooperation to address climate change,

Recognizing that States should enact effective environmental legislation, that environmental standards, management objectives and priorities should reflect the environmental

and developmental context to which they apply, and that standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries,

Recalling the provisions of General Assembly resolution 44/228 of 22 December 1989 on the United Nations Conference on Environment and Development, and resolutions 43/53 of 6 December 1988, 44/207 of 22 December 1989, 45/212 of 21 December 1990 and 46/169 of 19 December 1991 on protection of global climate for present and future generations of mankind,

Recalling also the provisions of General Assembly resolution 44/206 of 22 December 1989 on the possible adverse effects of sea-level rise on islands and coastal areas, particularly low-lying coastal areas and the pertinent provisions of General Assembly resolution 44/172 of 19 December 1989 on the implementation of the Plan of Action to Combat Desertification,

Recalling further the Vienna Convention for the Protection of the Ozone Layer, 1985, and the Montreal Protocol on Substances that Deplete the Ozone Layer, 1987, as adjusted and amended on 29 June 1990,

Noting the Ministerial Declaration of the Second World Climate Conference adopted on 7 November 1990,

Conscious of the valuable analytical work being conducted by many States on climate change and of the important contributions of the World Meteorological Organization, the United Nations Environment Programme and other organs, organizations and bodies of the United Nations system, as well as other international and intergovernmental bodies, to the exchange of results of scientific research and the coordination of research,

Recognizing that steps required to understand and address climate change will be environmentally, socially and economically most effective if they are based on relevant scientific, technical and economic considerations and continually re-evaluated in the light of new findings in these areas,

Recognizing that various actions to address climate change can be justified economically in their own right and can also help in solving other environmental problems,

Recognizing also the need for developed countries to take immediate action in a flexible

manner on the basis of clear priorities, as a first step towards comprehensive response strategies at the global, national and, where agreed, regional levels that take into account all greenhouse gases, with due consideration of their relative contributions to the enhancement of the greenhouse effect,

Recognizing further that low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems are particularly vulnerable to the adverse effects of climate change,

Recognizing the special difficulties of those countries, especially developing countries, whose economies are particularly dependent on fossil fuel production, use and exportation, as a consequence of action taken on limiting greenhouse gas emissions,

Affirming that responses to climate change should be coordinated with social and economic development in an integrated manner with a view to avoiding adverse impacts on the latter, taking into full account the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty,

Recognizing that all countries, especially developing countries, need access to resources required to achieve sustainable social and economic development and that, in order for developing countries to progress towards that goal, their energy consumption will need to grow taking into account the possibilities for achieving greater energy efficiency and for controlling greenhouse gas emissions in general, including through the application of new technologies on terms which make such an application economically and socially beneficial,

Determined to protect the climate system for present and future generations,

Have agreed as follows:

Article 1

DEFINITIONS*

For the purposes of this Convention:

1. "Adverse effects of climate change" means changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare.

2. “Climate change” means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.
3. “Climate system” means the totality of the atmosphere, hydrosphere, biosphere and geosphere and their interactions.
4. “Emissions” means the release of greenhouse gases and/or their precursors into the atmosphere over a specified area and period of time.
5. “Greenhouse gases” means those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation.
6. “Regional economic integration organization” means an organization constituted by sovereign States of a given region which has competence in respect of matters governed by this Convention or its protocols and has been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve or accede to the instruments concerned.
* Titles of articles are included solely to assist the reader.

7. “Reservoir” means a component or components of the climate system where a greenhouse gas or a precursor of a greenhouse gas is stored.
8. “Sink” means any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere.
9. “Source” means any process or activity which releases a greenhouse gas, an aerosol or a precursor of a greenhouse gas into the atmosphere.

Article 2

OBJECTIVE

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

Article 3

PRINCIPLES

In their actions to achieve the objective of the Convention and to implement its provisions, the Parties shall be guided, inter alia, by the following:

1. The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.

2. The specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration.

3. The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties.

4. The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change.

5. The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on

international trade.

Article 4

COMMITMENTS

1. All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:

(a) Develop, periodically update, publish and make available to the Conference of the Parties, in accordance with Article 12, national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties;

(b) Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change;

(c) Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors;

(d) Promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems;

(e) Cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification, as well as floods;

(f) Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view

to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change;

(g) Promote and cooperate in scientific, technological, technical, socio-economic and other research, systematic observation and development of data archives related to the climate system and intended to further the understanding and to reduce or eliminate the remaining uncertainties regarding the causes, effects, magnitude and timing of climate change and the economic and social consequences of various response strategies;

(h) Promote and cooperate in the full, open and prompt exchange of relevant scientific, technological, technical, socio-economic and legal information related to the climate system and climate change, and to the economic and social consequences of various response strategies;

(i) Promote and cooperate in education, training and public awareness related to climate change and encourage the widest participation in this process, including that of non-governmental organizations; and

(j) Communicate to the Conference of the Parties information related to implementation, in accordance with Article 12.

2. The developed country Parties and other Parties included in Annex I commit themselves specifically as provided for in the following:

(a) Each of these Parties shall adopt national[1] policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs. These policies and measures will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention, recognizing that the return by the end of the present decade to earlier levels of anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol would contribute to such modification, and taking into account the differences in these Parties' starting points and approaches, economic structures and resource bases, the need to maintain strong and sustainable economic growth, available technologies and other individual circumstances, as well as the need for equitable and appropriate contributions by each of these Parties to the global effort regarding that objective. These Parties may implement such

policies and measures jointly with other Parties and may assist other Parties in contributing to the achievement of the objective of the Convention and, in particular, that of this subparagraph;

1 This includes policies and measures adopted by regional economic integration organizations.

(b) In order to promote progress to this end, each of these Parties shall communicate, within six months of the entry into force of the Convention for it and periodically thereafter, and in accordance with Article 12, detailed information on its policies and measures referred to in subparagraph (a) above, as well as on its resulting projected anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol for the period referred to in subparagraph (a), with the aim of returning individually or jointly to their 1990 levels these anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol. This information will be reviewed by the Conference of the Parties, at its first session and periodically thereafter, in accordance with Article 7;

(c) Calculations of emissions by sources and removals by sinks of greenhouse gases for the purposes of subparagraph (b) above should take into account the best available scientific knowledge, including of the effective capacity of sinks and the respective contributions of such gases to climate change. The Conference of the Parties shall consider and agree on methodologies for these calculations at its first session and review them regularly thereafter;

(d) The Conference of the Parties shall, at its first session, review the adequacy of subparagraphs (a) and (b) above. Such review shall be carried out in the light of the best available scientific information and assessment on climate change and its impacts, as well as relevant technical, social and economic information. Based on this review, the Conference of the Parties shall take appropriate action, which may include the adoption of amendments to the commitments in subparagraphs (a) and (b) above. The Conference of the Parties, at its first session, shall also take decisions regarding criteria for joint implementation as indicated in subparagraph (a) above. A second review of subparagraphs (a) and (b) shall take place not later than 31 December 1998, and thereafter at regular intervals determined by the Conference of the Parties, until the objective of the Convention is met;

(e) Each of these Parties shall:

(i) coordinate as appropriate with other such Parties, relevant economic and

administrative instruments developed to achieve the objective of the Convention; and

(ii) identify and periodically review its own policies and practices which encourage activities that lead to greater levels of anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol than would otherwise occur;

(f) The Conference of the Parties shall review, not later than 31 December 1998, available information with a view to taking decisions regarding such amendments to the lists in Annexes I and II as may be appropriate, with the approval of the Party concerned;

(g) Any Party not included in Annex I may, in its instrument of ratification, acceptance, approval or accession, or at any time thereafter, notify the Depositary that it intends to be bound by subparagraphs (a) and (b) above. The Depositary shall inform the other signatories and Parties of any such notification.

3. The developed country Parties and other developed Parties included in Annex II shall provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations under Article 12, paragraph 1. They shall also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of implementing measures that are covered by paragraph 1 of this Article and that are agreed between a developing country Party and the international entity or entities referred to in Article 11, in accordance with that Article. The implementation of these commitments shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among the developed country Parties.

4. The developed country Parties and other developed Parties included in Annex II shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.

5. The developed country Parties and other developed Parties included in Annex II shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. In

this process, the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties. Other Parties and organizations in a position to do so may also assist in facilitating the transfer of such technologies.

6. In the implementation of their commitments under paragraph 2 above, a certain degree of flexibility shall be allowed by the Conference of the Parties to the Parties included in Annex I undergoing the process of transition to a market economy, in order to enhance the ability of these Parties to address climate change, including with regard to the historical level of anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol chosen as a reference.

7. The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.

8. In the implementation of the commitments in this Article, the Parties shall give full consideration to what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change and/or the impact of the implementation of response measures, especially on:

(a) Small island countries;

(b) Countries with low-lying coastal areas;

(c) Countries with arid and semi-arid areas, forested areas and areas liable to forest decay;

(d) Countries with areas prone to natural disasters;

(e) Countries with areas liable to drought and desertification;

(f) Countries with areas of high urban atmospheric pollution;

(g) Countries with areas with fragile ecosystems, including mountainous ecosystems;

(h) Countries whose economies are highly dependent on income generated from the production, processing and export, and/or on consumption of fossil fuels and associated energy-intensive products; and

(i) Landlocked and transit countries.

Further, the Conference of the Parties may take actions, as appropriate, with respect to this paragraph.

9. The Parties shall take full account of the specific needs and special situations of the least developed countries in their actions with regard to funding and transfer of technology.

10. The Parties shall, in accordance with Article 10, take into consideration in the implementation of the commitments of the Convention the situation of Parties, particularly developing country Parties, with economies that are vulnerable to the adverse effects of the implementation of measures to respond to climate change. This applies notably to Parties with economies that are highly dependent on income generated from the production, processing and export, and/or consumption of fossil fuels and associated energy-intensive products and/or the use of fossil fuels for which such Parties have serious difficulties in switching to alternatives.

Article 5

RESEARCH AND SYSTEMATIC OBSERVATION

In carrying out their commitments under Article 4, paragraph 1 (g), the Parties shall:

(a) Support and further develop, as appropriate, international and intergovernmental programmes and networks or organizations aimed at defining, conducting, assessing and financing research, data collection and systematic observation, taking into account the need to minimize duplication of effort;

(b) Support international and intergovernmental efforts to strengthen systematic observation and national scientific and technical research capacities and capabilities, particularly in developing countries, and to promote access to, and the exchange of, data and analyses thereof obtained from areas beyond national jurisdiction; and

(c) Take into account the particular concerns and needs of developing countries and cooperate in improving their endogenous capacities and capabilities to participate in the efforts referred to in subparagraphs (a) and (b) above.

Article 6

EDUCATION, TRAINING AND PUBLIC AWARENESS

In carrying out their commitments under Article 4, paragraph 1 (i), the Parties shall:

(a) Promote and facilitate at the national and, as appropriate, subregional and regional

levels, and in accordance with national laws and regulations, and within their respective capacities:

(i) the development and implementation of educational and public awareness programmes on climate change and its effects;

(ii) public access to information on climate change and its effects;

(iii) public participation in addressing climate change and its effects and developing adequate responses; and

(iv) training of scientific, technical and managerial personnel;

(b) Cooperate in and promote, at the international level, and, where appropriate, using existing bodies:

(i) the development and exchange of educational and public awareness material on climate change and its effects; and

(ii) the development and implementation of education and training programmes, including the strengthening of national institutions and the exchange or secondment of personnel to train experts in this field, in particular for developing countries.

Article 7

CONFERENCE OF THE PARTIES

1. A Conference of the Parties is hereby established.

2. The Conference of the Parties, as the supreme body of this Convention, shall keep under regular review the implementation of the Convention and any related legal instruments that the Conference of the Parties may adopt, and shall make, within its mandate, the decisions necessary to promote the effective implementation of the Convention. To this end, it shall:

(a) Periodically examine the obligations of the Parties and the institutional arrangements under the Convention, in the light of the objective of the Convention, the experience gained in its implementation and the evolution of scientific and technological knowledge;

(b) Promote and facilitate the exchange of information on measures adopted by the Parties to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under the

Convention;

(c) Facilitate, at the request of two or more Parties, the coordination of measures adopted by them to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under the Convention;

(d) Promote and guide, in accordance with the objective and provisions of the Convention, the development and periodic refinement of comparable methodologies, to be agreed on by the Conference of the Parties, inter alia, for preparing inventories of greenhouse gas emissions by sources and removals by sinks, and for evaluating the effectiveness of measures to limit the emissions and enhance the removals of these gases;

(e) Assess, on the basis of all information made available to it in accordance with the provisions of the Convention, the implementation of the Convention by the Parties, the overall effects of the measures taken pursuant to the Convention, in particular environmental, economic and social effects as well as their cumulative impacts and the extent to which progress towards the objective of the Convention is being achieved;

(f) Consider and adopt regular reports on the implementation of the Convention and ensure their publication;

(g) Make recommendations on any matters necessary for the implementation of the Convention;

(h) Seek to mobilize financial resources in accordance with Article 4, paragraphs 3, 4 and 5, and Article 11;

(i) Establish such subsidiary bodies as are deemed necessary for the implementation of the Convention;

(j) Review reports submitted by its subsidiary bodies and provide guidance to them;

(k) Agree upon and adopt, by consensus, rules of procedure and financial rules for itself and for any subsidiary bodies;

(l) Seek and utilize, where appropriate, the services and cooperation of, and information provided by, competent international organizations and intergovernmental and non-governmental bodies; and

(m) Exercise such other functions as are required for the achievement of the objective of the Convention as well as all other functions assigned to it under the Convention.

3. The Conference of the Parties shall, at its first session, adopt its own rules of procedure as well as those of the subsidiary bodies established by the Convention, which shall include decision-making procedures for matters not already covered by decision-making procedures stipulated in the Convention. Such procedures may include specified majorities required for the adoption of particular decisions.

4. The first session of the Conference of the Parties shall be convened by the interim secretariat referred to in Article 21 and shall take place not later than one year after the date of entry into force of the Convention. Thereafter, ordinary sessions of the Conference of the Parties shall be held every year unless otherwise decided by the Conference of the Parties.

5. Extraordinary sessions of the Conference of the Parties shall be held at such other times as may be deemed necessary by the Conference, or at the written request of any Party, provided that, within six months of the request being communicated to the Parties by the secretariat, it is supported by at least one third of the Parties.

6. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State member thereof or observers thereto not Party to the Convention, may be represented at sessions of the Conference of the Parties as observers. Any body or agency, whether national or international, governmental or non-governmental, which is qualified in matters covered by the Convention, and which has informed the secretariat of its wish to be represented at a session of the Conference of the Parties as an observer, may be so admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Conference of the Parties.

Article 8

SECRETARIAT

1. A secretariat is hereby established.

2. The functions of the secretariat shall be:

(a) To make arrangements for sessions of the Conference of the Parties and its subsidiary bodies established under the Convention and to provide them with services as required;

(b) To compile and transmit reports submitted to it;

(c) To facilitate assistance to the Parties, particularly developing country Parties, on

request, in the compilation and communication of information required in accordance with the provisions of the Convention;

(d) To prepare reports on its activities and present them to the Conference of the Parties;

(e) To ensure the necessary coordination with the secretariats of other relevant international bodies;

(f) To enter, under the overall guidance of the Conference of the Parties, into such administrative and contractual arrangements as may be required for the effective discharge of its functions; and

(g) To perform the other secretariat functions specified in the Convention and in any of its protocols and such other functions as may be determined by the Conference of the Parties.

3. The Conference of the Parties, at its first session, shall designate a permanent secretariat and make arrangements for its functioning.

Article 9

SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE

1. A subsidiary body for scientific and technological advice is hereby established to provide the Conference of the Parties and, as appropriate, its other subsidiary bodies with timely information and advice on scientific and technological matters relating to the Convention. This body shall be open to participation by all Parties and shall be multidisciplinary. It shall comprise government representatives competent in the relevant field of expertise. It shall report regularly to the Conference of the Parties on all aspects of its work.

2. Under the guidance of the Conference of the Parties, and drawing upon existing competent international bodies, this body shall:

(a) Provide assessments of the state of scientific knowledge relating to climate change and its effects;

(b) Prepare scientific assessments on the effects of measures taken in the implementation of the Convention;

(c) Identify innovative, efficient and state-of-the-art technologies and know-how and advise on the ways and means of promoting development and/or transferring such technologies;

(d) Provide advice on scientific programmes, international cooperation in research and development related to climate change, as well as on ways and means of supporting endogenous capacity-building in developing countries; and

(e) Respond to scientific, technological and methodological questions that the Conference of the Parties and its subsidiary bodies may put to the body.

3. The functions and terms of reference of this body may be further elaborated by the Conference of the Parties.

Article 10

SUBSIDIARY BODY FOR IMPLEMENTATION

1. A subsidiary body for implementation is hereby established to assist the Conference of the Parties in the assessment and review of the effective implementation of the Convention. This body shall be open to participation by all Parties and comprise government representatives who are experts on matters related to climate change. It shall report regularly to the Conference of the Parties on all aspects of its work.

2. Under the guidance of the Conference of the Parties, this body shall:

(a) Consider the information communicated in accordance with Article 12, paragraph 1, to assess the overall aggregated effect of the steps taken by the Parties in the light of the latest scientific assessments concerning climate change;

(b) Consider the information communicated in accordance with Article 12, paragraph 2, in order to assist the Conference of the Parties in carrying out the reviews required by Article 4, paragraph 2 (d); and

(c) Assist the Conference of the Parties, as appropriate, in the preparation and implementation of its decisions.

Article 11

FINANCIAL MECHANISM

1. A mechanism for the provision of financial resources on a grant or concessional basis, including for the transfer of technology, is hereby defined. It shall function under the guidance of and be accountable to the Conference of the Parties, which shall decide on its policies, programme priorities and eligibility criteria related to this Convention. Its operation shall be entrusted to one or more existing international entities.

2. The financial mechanism shall have an equitable and balanced representation of all Parties within a transparent system of governance.

3. The Conference of the Parties and the entity or entities entrusted with the operation of the financial mechanism shall agree upon arrangements to give effect to the above paragraphs, which shall include the following:

(a) Modalities to ensure that the funded projects to address climate change are in conformity with the policies, programme priorities and eligibility criteria established by the Conference of the Parties;

(b) Modalities by which a particular funding decision may be reconsidered in light of these policies, programme priorities and eligibility criteria;

(c) Provision by the entity or entities of regular reports to the Conference of the Parties on its funding operations, which is consistent with the requirement for accountability set out in paragraph 1 above; and

(d) Determination in a predictable and identifiable manner of the amount of funding necessary and available for the implementation of this Convention and the conditions under which that amount shall be periodically reviewed.

4. The Conference of the Parties shall make arrangements to implement the above-mentioned provisions at its first session, reviewing and taking into account the interim arrangements referred to in Article 21, paragraph 3, and shall decide whether these interim arrangements shall be maintained. Within four years thereafter, the Conference of the Parties shall review the financial mechanism and take appropriate measures.

5. The developed country Parties may also provide and developing country Parties avail themselves of, financial resources related to the implementation of the Convention through bilateral, regional and other multilateral channels.

Article 12

COMMUNICATION OF INFORMATION RELATED TO IMPLEMENTATION

1. In accordance with Article 4, paragraph 1, each Party shall communicate to the Conference of the Parties, through the secretariat, the following elements of information:

(a) A national inventory of anthropogenic emissions by sources and removals by

sinks of all greenhouse gases not controlled by the Montreal Protocol, to the extent its capacities permit, using comparable methodologies to be promoted and agreed upon by the Conference of the Parties;

(b) A general description of steps taken or envisaged by the Party to implement the Convention; and

(c) Any other information that the Party considers relevant to the achievement of the objective of the Convention and suitable for inclusion in its communication, including, if feasible, material relevant for calculations of global emission trends.

2. Each developed country Party and each other Party included in Annex I shall incorporate in its communication the following elements of information:

(a) A detailed description of the policies and measures that it has adopted to implement its commitment under Article 4, paragraphs 2 (a) and 2 (b); and

(b) A specific estimate of the effects that the policies and measures referred to in subparagraph (a) immediately above will have on anthropogenic emissions by its sources and removals by its sinks of greenhouse gases during the period referred to in Article 4, paragraph 2 (a).

3. In addition, each developed country Party and each other developed Party included in Annex II shall incorporate details of measures taken in accordance with Article 4, paragraphs 3, 4 and 5.

4. Developing country Parties may, on a voluntary basis, propose projects for financing, including specific technologies, materials, equipment, techniques or practices that would be needed to implement such projects, along with, if possible, an estimate of all incremental costs, of the reductions of emissions and increments of removals of greenhouse gases, as well as an estimate of the consequent benefits.

5. Each developed country Party and each other Party included in Annex I shall make its initial communication within six months of the entry into force of the Convention for that Party. Each Party not so listed shall make its initial communication within three years of the entry into force of the Convention for that Party, or of the availability of financial resources in accordance with Article 4, paragraph 3. Parties that are least developed countries may make their initial communication at their discretion. The frequency of subsequent communications by all Parties

shall be determined by the Conference of the Parties, taking into account the differentiated timetable set by this paragraph.

6. Information communicated by Parties under this Article shall be transmitted by the secretariat as soon as possible to the Conference of the Parties and to any subsidiary bodies concerned. If necessary, the procedures for the communication of information may be further considered by the Conference of the Parties.

7. From its first session, the Conference of the Parties shall arrange for the provision to developing country Parties of technical and financial support, on request, in compiling and communicating information under this Article, as well as in identifying the technical and financial needs associated with proposed projects and response measures under Article 4. Such support may be provided by other Parties, by competent international organizations and by the secretariat, as appropriate.

8. Any group of Parties may, subject to guidelines adopted by the Conference of the Parties, and to prior notification to the Conference of the Parties, make a joint communication in fulfilment of their obligations under this Article, provided that such a communication includes information on the fulfilment by each of these Parties of its individual obligations under the Convention.

9. Information received by the secretariat that is designated by a Party as confidential, in accordance with criteria to be established by the Conference of the Parties, shall be aggregated by the secretariat to protect its confidentiality before being made available to any of the bodies involved in the communication and review of information.

10. Subject to paragraph 9 above, and without prejudice to the ability of any Party to make public its communication at any time, the secretariat shall make communications by Parties under this Article publicly available at the time they are submitted to the Conference of the Parties.

Article 13

RESOLUTION OF QUESTIONS REGARDING IMPLEMENTATION

The Conference of the Parties shall, at its first session, consider the establishment of a multilateral consultative process, available to Parties on their request, for the resolution of questions regarding the implementation of the Convention.

Article 14

SETTLEMENT OF DISPUTES

1. In the event of a dispute between any two or more Parties concerning the interpretation or application of the Convention, the Parties concerned shall seek a settlement of the dispute through negotiation or any other peaceful means of their own choice.

2. When ratifying, accepting, approving or acceding to the Convention, or at any time thereafter, a Party which is not a regional economic integration organization may declare in a written instrument submitted to the Depositary that, in respect of any dispute concerning the interpretation or application of the Convention, it recognizes as compulsory ipso facto and without special agreement, in relation to any Party accepting the same obligation:

(a) Submission of the dispute to the International Court of Justice; and/or

(b) Arbitration in accordance with procedures to be adopted by the Conference of the Parties as soon as practicable, in an annex on arbitration.

A Party which is a regional economic integration organization may make a declaration with like effect in relation to arbitration in accordance with the procedures referred to in subparagraph (b) above.

3. A declaration made under paragraph 2 above shall remain in force until it expires in accordance with its terms or until three months after written notice of its revocation has been deposited with the Depositary.

4. A new declaration, a notice of revocation or the expiry of a declaration shall not in any way affect proceedings pending before the International Court of Justice or the arbitral tribunal, unless the parties to the dispute otherwise agree.

5. Subject to the operation of paragraph 2 above, if after twelve months following notification by one Party to another that a dispute exists between them, the Parties concerned have not been able to settle their dispute through the means mentioned in paragraph 1 above, the dispute shall be submitted, at the request of any of the parties to the dispute, to conciliation.

6. A conciliation commission shall be created upon the request of one of the parties to the dispute. The commission shall be composed of an equal number of members appointed by each party concerned and a chairman chosen jointly by the members appointed by each party. The commission shall render a recommendatory award, which the parties shall consider in good faith.

7. Additional procedures relating to conciliation shall be adopted by the Conference of the Parties, as soon as practicable, in an annex on conciliation.

8. The provisions of this Article shall apply to any related legal instrument which the Conference of the Parties may adopt, unless the instrument provides otherwise.

Article 15

AMENDMENTS TO THE CONVENTION

1. Any Party may propose amendments to the Convention.

2. Amendments to the Convention shall be adopted at an ordinary session of the Conference of the Parties. The text of any proposed amendment to the Convention shall be communicated to the Parties by the secretariat at least six months before the meeting at which it is proposed for adoption. The secretariat shall also communicate proposed amendments to the signatories to the Convention and, for information, to the Depositary.

3. The Parties shall make every effort to reach agreement on any proposed amendment to the Convention by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the amendment shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting. The adopted amendment shall be communicated by the secretariat to the Depositary, who shall circulate it to all Parties for their acceptance.

4. Instruments of acceptance in respect of an amendment shall be deposited with the Depositary. An amendment adopted in accordance with paragraph 3 above shall enter into force for those Parties having accepted it on the ninetieth day after the date of receipt by the Depositary of an instrument of acceptance by at least three fourths of the Parties to the Convention.

5. The amendment shall enter into force for any other Party on the ninetieth day after the date on which that Party deposits with the Depositary its instrument of acceptance of the said amendment.

6. For the purposes of this Article, "Parties present and voting" means Parties present and casting an affirmative or negative vote.

Article 16

ADOPTION AND AMENDMENT OF ANNEXES TO THE CONVENTION

1. Annexes to the Convention shall form an integral part thereof and, unless otherwise expressly provided, a reference to the Convention constitutes at the same time a reference to any

annexes thereto. Without prejudice to the provisions of Article 14, paragraphs 2 (b) and 7, such annexes shall be restricted to lists, forms and any other material of a descriptive nature that is of a scientific, technical, procedural or administrative character.

2. Annexes to the Convention shall be proposed and adopted in accordance with the procedure set forth in Article 15, paragraphs 2, 3 and 4.

3. An annex that has been adopted in accordance with paragraph 2 above shall enter into force for all Parties to the Convention six months after the date of the communication by the Depositary to such Parties of the adoption of the annex, except for those Parties that have notified the Depositary, in writing, within that period of their non-acceptance of the annex. The annex shall enter into force for Parties which withdraw their notification of non-acceptance on the ninetieth day after the date on which withdrawal of such notification has been received by the Depositary.

4. The proposal, adoption and entry into force of amendments to annexes to the Convention shall be subject to the same procedure as that for the proposal, adoption and entry into force of annexes to the Convention in accordance with paragraphs 2 and 3 above.

5. If the adoption of an annex or an amendment to an annex involves an amendment to the Convention, that annex or amendment to an annex shall not enter into force until such time as the amendment to the Convention enters into force.

Article 17

PROTOCOLS

1. The Conference of the Parties may, at any ordinary session, adopt protocols to the Convention.

2. The text of any proposed protocol shall be communicated to the Parties by the secretariat at least six months before such a session.

3. The requirements for the entry into force of any protocol shall be established by that instrument.

4. Only Parties to the Convention may be Parties to a protocol.

5. Decisions under any protocol shall be taken only by the Parties to the protocol concerned.

Article 18

RIGHT TO VOTE

1. Each Party to the Convention shall have one vote, except as provided for in paragraph 2 below.

2. Regional economic integration organizations, in matters within their competence, shall exercise their right to vote with a number of votes equal to the number of their member States that are Parties to the Convention. Such an organization shall not exercise its right to vote if any of its member States exercises its right, and vice versa.

Article 19

DEPOSITARY

The Secretary-General of the United Nations shall be the Depositary of the Convention and of protocols adopted in accordance with Article 17.

Article 20

SIGNATURE

This Convention shall be open for signature by States Members of the United Nations or of any of its specialized agencies or that are Parties to the Statute of the International Court of Justice and by regional economic integration organizations at Rio de Janeiro, during the United Nations Conference on Environment and Development, and thereafter at United Nations Headquarters in New York from 20 June 1992 to 19 June 1993.

Article 21

INTERIM ARRANGEMENTS

1. The secretariat functions referred to in Article 8 will be carried out on an interim basis by the secretariat established by the General Assembly of the United Nations in its resolution 45/212 of 21 December 1990, until the completion of the first session of the Conference of the Parties.

2. The head of the interim secretariat referred to in paragraph 1 above will cooperate closely with the Intergovernmental Panel on Climate Change to ensure that the Panel can respond to the need for objective scientific and technical advice. Other relevant scientific bodies could also be consulted.

3. The Global Environment Facility of the United Nations Development Programme, the United Nations Environment Programme and the International Bank for Reconstruction and Development shall be the international entity entrusted with the operation of the financial

mechanism referred to in Article 11 on an interim basis. In this connection, the Global Environment Facility should be appropriately restructured and its membership made universal to enable it to fulfil the requirements of Article 11.

Article 22

RATIFICATION, ACCEPTANCE, APPROVAL OR ACCESSION

1. The Convention shall be subject to ratification, acceptance, approval or accession by States and by regional economic integration organizations. It shall be open for accession from the day after the date on which the Convention is closed for signature. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depositary.

2. Any regional economic integration organization which becomes a Party to the Convention without any of its member States being a Party shall be bound by all the obligations under the Convention. In the case of such organizations, one or more of whose member States is a Party to the Convention, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under the Convention. In such cases, the organization and the member States shall not be entitled to exercise rights under the Convention concurrently.

3. In their instruments of ratification, acceptance, approval or accession, regional economic integration organizations shall declare the extent of their competence with respect to the matters governed by the Convention. These organizations shall also inform the Depositary, who shall in turn inform the Parties, of any substantial modification in the extent of their competence.

Article 23

ENTRY INTO FORCE

1. The Convention shall enter into force on the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession.

2. For each State or regional economic integration organization that ratifies, accepts or approves the Convention or accedes thereto after the deposit of the fiftieth instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ninetieth day after the date of deposit by such State or regional economic integration organization of its instrument of ratification, acceptance, approval or accession.

3. For the purposes of paragraphs 1 and 2 above, any instrument deposited by a regional

economic integration organization shall not be counted as additional to those deposited by States members of the organization.

Article 24

RESERVATIONS

No reservations may be made to the Convention.

Article 25

WITHDRAWAL

1. At any time after three years from the date on which the Convention has entered into force for a Party, that Party may withdraw from the Convention by giving written notification to the Depositary.

2. Any such withdrawal shall take effect upon expiry of one year from the date of receipt by the Depositary of the notification of withdrawal, or on such later date as may be specified in the notification of withdrawal.

3. Any Party that withdraws from the Convention shall be considered as also having withdrawn from any protocol to which it is a Party.

Article 26

AUTHENTIC TEXTS

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned, being duly authorized to that effect, have signed this Convention.

DONE at New York this ninth day of May one thousand nine hundred and ninety-two.

Annex I

Australia

Austria

Belarus[a]

Belgium

Bulgaria[a]

Canada

Croatia[a] *

Czech Republic[a] *

Denmark

European Economic Community

Estonia[a]

Finland

France

Germany

Greece

Hungary[a]

Iceland

Ireland

Italy

Japan

Latvia[a]

Liechtenstein**

Lithuania[a]

Luxembourg

Monaco**

Netherlands

New Zealand

Norway

Poland[a]

Portugal

Romania[a]

Russian Federation[a]

Slovakia[a]*

Slovenia[a]*

Spain

Sweden

Switzerland

Turkey

Ukraine[a]

United Kingdom of Great Britain and Northern Ireland

United States of America

[a] Countries that are undergoing the process of transition to a market economy.

* *Publisher's note*: Countries added to Annex I by an amendment that entered into force on 13 August 1998, pursuant to decision 4/CP.3 adopted at COP.3.

Annex II

Australia

Austria

Belgium

Canada

Denmark

European Economic Community

Finland

France

Germany

Greece

Iceland

Ireland

Italy

Japan

Luxembourg

Netherlands

New Zealand

Norway

Portugal

Spain

Sweden

Switzerland

United Kingdom of Great Britain and Northern Ireland

United States of America

Publisher's note: Turkey was deleted from Annex II by an amendment that entered into force 28 June 2002, pursuant to decision 26/CP.7 adopted at COP.7.

- - - - -

Bibliography

*(*indicates the primary source)*

Abbott, K.W. (2012), *Organisation for Economic Cooperation and Development*, New Jersey: Wiley-Blackwell.

Abramson, Rudy (1989), "U.S. and Japan Block Firm Stand on Global Pollutants", *Los Angeles Times,* 8 Nov 1989.

Adler, E. and P.M. Haas (1992), "Conclusion: Epistemic Communities, World Order, and the Creation of a Reflective Research Program", *International Organization*, 46(1): 367-390.

Agarwal, A. and Narain, S. (1990) *Global Warming in an Unequal World—a Case of Environmental Colonialism*, New Delhi: Centre for Science and Environment.

Agarwal, A. and S. Narain (1991), *Global Warming in an Unequal World: A Case of Environmental Colonialism*, New Delhi: Centre for Science and Environment.

Agarwal, A., S. Narain and A. Sharma (1999), *Global Environmental Negotiations. Vol. 1, Green Politics*, New Delhi: Centre for Science and Environment.

Agrawala, S. (1998), "Context and Early origins of the Intergovernmental Panel on Climate Change", *Climatic Change,* 39(4): 605-620.

Agrawala, S. (1999), "Early Science–policy Interactions in Climate Change: Lessons from the Advisory Group on Greenhouse Gases", *Global Environmental Change,* 9(2): 157-169.

Agrawala, Shardul (1998), "Context and Early Origins of the Intergovernmental Panel on Climate Change", *Climate Change,* (39): 605- 620.

Ahrari, M.E. (2015), *OPEC: The Failing Giant*, Lexington: University Press of Kentucky.

Albin, C. (1999), "Can NGOs Enhance the Effectiveness of International Negotiation?", *International Negotiation*, 4(3): 371-387.

Anderegg, W.R., et al. (2010), "Expert Credibility in Climate Change", *Proceedings of the National Academy of Sciences*, 107(27): 12107-12109.

Andresen, S., And W. Østreng (1989), *International Resource Management: The Role of Science and Politics*, New York: Belhaven Press.

Antilla, Liisa (2005), "Climate of scepticism: US newspaper coverage of the science of climate change", *Global Environmental Change,* (15): 338-352.

Arrhenius, S (1896), "On the Influence of Carbonic Acid in the Air upon the Temperature of the Ground", *Philosophy Magazine,* (41): 237-271.

Ashe, J.W., et al. (1999), "The role of the Alliance of Small Island States (AOSIS) in the negotiation of the United Nations Framework Convention on Climate Change (UNFCCC)", *Natural Resources Forum*, 23(3): 209-220.

Barnett, J. (2003), "Security and Climate Change", *Global environmental change*, 13(1): 7-17.

Barnett, J. (2008), "The Worst of Friends: OPEC and G-77 in the Climate Regime", *Global Environmental Politics*, 8(4): 1-8.

Bauer, Anja *et. al.,* (2012), "The Governance of Climate Change Adaptation in 10 OECD Countries: Challenges and Approaches", *Journal of Environmental Policy & Planning*, 14(3): 279-304.

Benedick, Richard (1991), *Ozone Diplomacy: New Direction in Safeguarding the Planet,* London: Harvard University Press.

Betsill, M.M. and E. Corell (2001), "NGO Influence in International Environmental Negotiations: A Framework for Analysis", *Global Environmental Politics,* 1(4): 65-85.

Betzold, C. (2010), "'Borrowing' Power to Influence International Negotiations: AOSIS in the Climate Change Regime, 1990–1997", *Politics*, 30(3): 131-148.

Betzold, Carola. Castro, Paula and Florian Weiler, (2012), "AOSIS in the UNFCCC negotiations: From unity to fragmentation?", *Climate* Policy, 12(1): 591-613.

Birchler, K. and P. Castro (2013), *Who dances with whom? A quantitative and qualitative analysis of interest groups characteristics, access to state actors, and negotiation outcomes*, Zurich Open Repository and Archive, Zurich: University of Zurich.

Bodansky, D. (1993), "The United Nations Framework Convention on Climate Change: A Commentary", *Yale Journal of International Law*, 18(2): 451-558.

Bodansky, D. (2001), "The History of the Global Climate Change Regime", in Edited by U. Luterbacher and D. Sprinz (Eds.), *International relations and Global Climate Change*, Cambridge: MIT Press.

Bodansky, Daniel (1994), "Prologue to the Climate Change Convention", in Mintzer, Irving M. and Leonard, J. (eds.) *Negotiating Climate Change: The Inside Story of the Rio Convention*, Cambridge: Cambridge University Press.

Boehmer-Christiansen, S. (1994a), "Global Climate Protection Policy: The Limits of Scientific Advice: Part 1", *Global Environmental Change*, 4(2): 140-159.

Boehmer-Christiansen, S. (1994b), "Global Climate Protection Policy: The Limits of Scientific Advice: Part 2", *Global Environmental Change*, 4(3): 185-200.

Bolin, Bert (2007), *A History of the Science and Politics of Climate Change: The role of Intergovernmental Panel on Climate Change*, New York: Cambridge University Press.

Borione, D. and Ripert, J. (1994), "Exercising Common but Differentiated Responsibilities", in Mintzer, Irving M. and Leonard, J. (eds.) *Negotiating Climate Change: The Inside Story of the Rio Convention*, Cambridge: Cambridge University Press.

Boyd et al. (2008), "UNFCCC Negotiations (pre-Kyoto to COP-9): What the Process says about the Politics of CDM-sinks", *International Environmental Agreements*, 8: 95-112.

Brauch G. H. *et al.*, (2011), *Coping with Global Environmental Change, Disasters and Security: Threats, Challenges, Vulnerabilities and Risks,* Berlin: Springer- Verlag.

Breidenich, C., et al. (1998), "The Kyoto Protocol to the United Nations Framework Convention on Climate Change", *American Journal of International Law*, 92(2): 315-331.

Bulatao& Philippe Sands (1991), "Financial Resources and International Funding Mechanisms for the Climate Change Convention", *Centre for International Environmental Law (CIEL): AOSIS Background Paper No. 3*.

Burns, W.C. (1997), "Global Warming: The United Nations Framework Convention on Climate Change and the Future of Small Island States", *Dickinson Journal of Environmental Law & Policy*, 6(2): 147-167.

Burroughs, William J., (2001) *"Climate Change: A Multidisciplinary Approach"* Cambridge University Press, New York

Burton, I., et al. (2002), "From Impacts Assessment to Adaptation Priorities: The Shaping of Adaptation Policy", *Climate Policy*, 2(2-3): 145-159.

Bush, E.J. and L.D. Harvey (1997), "Joint Implementation and the Ultimate Objective of the United Nations Framework Convention on Climate Change", *Global Environmental Change*, 7(3): 265-285.

Cairns, R.D. and E. Calfucura (2012), "OPEC: Market Failure or Power Failure?", *Energy Policy*, 50: 570-580.

Campbell, J.R. (2018), "Climate Change Impacts on Atolls and Island Nations in the South Pacific", in D. A. Dellasala and M. I. Goldstein (eds.), *Encyclopedia of the Anthropocene*, Oxford: Elsevier, pp. 227-232.

Caparrós, A., et al. (2004), "North-South Climate Change Negotiations: A Sequential Game with Asymmetric Information", *Public Choice*, 121(3): 455-480.

Chasek, P.S. (2005), "Margins of Power: Coalition Building and Coalition Maintenance of the South Pacific Island States and the Alliance of Small Island States", *Review of European, Comparative & International Environmental Law*, 14(2): 125-137.

Chesterman, S., et al. (2005), *Making States Work: State Failure and the Crisis of Governance*, Tokyo: United Nations University Press.

Christopher, W. (1998), *In the Stream of History: Shaping Foreign Policy for a New Era*, Palo Alto: Stanford University Press.

Cody, Edward (1989), "Global Environmental Power Sought", *Washington Post*, Washington D.C, 12 March 1989.

Conservation Foundation (1963), *Implications of Rising Carbon Dioxide Content of the Atmosphere,* The Conservation Foundation, New York.

Cook, J., et al. (2013), "Quantifying the Consensus on Anthropogenic Global Warming in the Scientific Literature", *Environmental Research Letters*, 8(2): 024024.

Cook, J., et al. (2016), "Consensus on Consensus: A Synthesis of Consensus Estimates on Human-caused Global Warming", *Environmental Research Letters*, 11(4): 048002.

Corell, E. and M.M. Betsill (2001), "A Comparative Look at NGO Influence in International Environmental Negotiations: Desertification and Climate Change", *Global Environmental Politics*, 1(4): 86-107.

Dasgupta, C. (1994), "The Climate Change Negotiations", in Mintzer, Irving M. and Leonard, J. (eds.) *Negotiating Climate Change: The Inside Story of the Rio Convention*, Cambridge: Cambridge University Press.

Dasgupta, C. (2012), "Negotiating the Framework Convention on Climate Change", in K. Rajan (Ed.), *The Ambassador's Club: The Indian Diplomat at Large*, New Delhi: Harper Collins.

Davis, W. (1996), "The Alliance of Small Island States (AOSIS): The International Conscience", *Asia-Pacific Magazine*, 2: 17–22.

Deitelhoff, N. and L. Wallbott (2012), "Beyond soft balancing: small states and coalition-building in the ICC and climate negotiations", *Cambridge Review of International Affairs*, 25(3): 345-366.

DeLeo, R.A. (2017), "Anticipatory Policymaking in Global Venues: Policy Change, Adaptation, and the UNFCCC", *Futures*, 92(2): 39-47.

Depledge, Joanna (2006), *The Organization of Global Negotiations: Constructing the Climate Change Regime*, London: Earthscan.

Dimitrov, R.S. (2003), "Knowledge, Power, and Interests in Environmental Regime Formation", *International Studies Quarterly*, 47(1): 123-150.

Djoghlaf, Ahmed (1994), "The Beginning of an International Climate Law", in Mintzer, Irving M. and Leonard, J. (eds.) *Negotiating Climate Change: The Inside Story of the Rio Convention*, Cambridge: Cambridge University Press.

Doniger, D. (1992), "US Wall About to Crumble?", *ECO*, 19 February 1992.

Dowdeswell and Kinley (1994), "Constructive Damage to the Status Quo", in Mintzer, Irving M. and Leonard, J. (eds.) *Negotiating Climate Change: The Inside Story of the Rio Convention*, Cambridge: Cambridge University Press.

Dubash, N.K., et al. (2013), "Developments in National Climate Change Mitigation Legislation and Strategy", *Climate Policy*, 13(6): 649-664.

Dubey, M. (2014), "The Historic Importance of G-77", *UN Chronical:* 23-26

Dunlap, R.E. and A.M. McCright (2011), "Organized Climate Change Denial", *The Oxford Handbook of Climate Change and Society*: 144-160.

Dunlap, R.E. and P.J. Jacques (2013), "Climate Change Denial Books and Conservative Think Tanks: Exploring the Connection", *American Behavioral Scientist,* 57(6): 699-731.

Dupont, C. (1996), "Negotiation as Coalition Building", *International Negotiation,* 1(1): 47-64.

Earth Negotiations Bulletin (ENB) (1995), "Climate Change Convention COP-1 Highlights: Thursday, 30 March 1995", *Earth Negotiations Bulletin,* 12(15):1–2.

*European Communities (1990), "*EC Council Conclusions on Climate Change Policy*", Council of the European Communities Press Release, Place, 29 October 1990.

Fisher, D.R. (2010), "COP-15 in Copenhagen: How the Merging of Movements Left Civil Society out in the Cold", *Global Environmental Politics,* 10(2): 11-17.

Franz, Wendy E., (1997), "The Development of an International Agenda for Climate Change: Connecting Science to Policy", *ENRP Discussion Paper,* 97 (07): 1-41.

Gaines, S.E (1991), "The Polluter-Pays Principle: From Economic Equity to Environmental Ethos", *Texas International Law Journal,* (26): 463.

Gammon, R. H., Sundquist, E. T., and Fraser, P. J. (1985), "History of Carbon Dioxide in the Atmosphere", in J. R. Trabalka (ed.) *Atmospheric Carbon Dioxide and the Global Carbon Cycle, Report.* Washington, D. C.: U. S. Dept. of Energy.

Ghosh, P. (1993), "Structuring the Equity Issue in Climate Change", in A.N. Achanta (Ed.), *The Climate Change Agenda - An Indian Perspective,* New Delhi: Tata Energy Research Institute.

*Govt. of Netherlands (1989), *Noordwijk Conference Report,* Ministry of Housing, Physical Planning and Environment, Noordwijk.

Griffin, J.M. (1985), "OPEC Behavior: A Test of Alternative Hypotheses", *The American Economic Review*, 75(5): 954-963.

*Group of 77 (1964), *Joint Declaration of the Seventy-Seven Developing Countries made at the conclusion of the United Nations Conference On Trade And Development,* Geneva: Group of 77.

*------- (1967), *First Ministerial Meeting of the Group of 77: Charter of Algiers*, Algiers: Group of 77.

Grubb & Steen (1991), "Pledge and Review Processes: Possible Components of a Climate Convention", *Energy and Environmental. Programme of The Royal Institute of International Affairs*

Gulbrandsen, L.H. and S. Andresen (2004), "NGO Influence in the Implementation of the Kyoto Protocol: Compliance, Flexibility Mechanisms, and Sinks", *Global Environmental Politics*, 4(4): 54-75.

Haas, P.M. (1992), "Obtaining International Environmental Protection through Epistemic Consensus", in I. H. Rowlands and M. Greene (eds.), *Global Environmental Change and International Relations*, London: Palgrave Macmillan UK, pp. 38-59.

Haas, P.M. (2002), "UN Conferences and Constructivist Governance of the Environment", *Global Governance*, 8: 73.

Haas, P.M. (2004), "Addressing the Global Governance Deficit", *Global Environmental Politics*, 4(4): 1-15.

Haftel, Y.Z. and A. Thompson (2006), "The Independence of International Organizations: Concept and Applications", *Journal of Conflict Resolution*, 50(2): 253-275.

Hampson, F.O. & Michael Hart, (1995), *Multilateral Negotiations: Lessons from Arms Control Trade & the environment*, Baltimore: John Hopkins University Press.

Hansen *et al.*, (1984), "Climate Sensitivity: Analysis of Feedback Mechanisms", in J. E. Hansen and T. Takahaski (eds.) *Climate Processes and Climate Sensitivity,* Washington, D. C.: American Geophysical Union.

Hays, J.C., et al. (2005), "Government spending and public support for trade in the OECD: An empirical test of the embedded liberalism thesis", *International Organization*, 59(2): 473-494.

Hecht, A.D. and D. Tirpak (1995), "Framework Agreement on Climate Change: A Scientific and Policy History", *Climatic Change*, 29(4): 371-402.

Heileman, L. (1993), "The Alliance of Small Island States (AOSIS): A Mechanism for Coordinated Representation of Small Island States on Issues of Common Concern", *Ambio,* 22(1): 55-56.

Hjerpe, M. and B.O. Linnér (2010), "Functions of COP Side-events in Climate change Governance", *Climate Policy,* 10(2): 167-180.

Hunt J. (1991), "UK backs voluntary greenhouse gas targets", *Financial Times*, London, 26 June 1991.

Hurrell, A. and S. Sengupta (2012), "Emerging Powers, North-South Relations and Global Climate Politics", *International Affairs,* 88(3): 463-484.

*Intergovernmental Negotiations Committee (1991), *Consolidated Working Document, Addendum IV, Commitments,* UN Doc. A/AC. 237/Misc. 17/Add. 1.

*---------- (1991), *Rules of Procedure,* UN Doc. A/AC. 237/5.

*---------- (1991a), *Report of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change on the Work of its First Session, held at Washington,D.C., from 4 to 14 February 1991,* UN Doc. A/AC. 237/6.

*---------- (1992), *Report of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change on the Work of its Fourth Session, held at Geneva from 9 to 20 December 1991,* UN Doc. A/AC. 237/15.

*--------- (1993), *Report of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change on the Work of its Sixth Session, held at Geneva from 7 to 10 December 1992,* UN Doc. A/AC. 237/24.

*Intergovernmental Panel for Climate Change (1990), *IPCC Scientific Assessment Report 1990,* Cambridge Univ. Press: Geneva.

*---------- (1992), IPCC First Assessment Report Overview and Policymaker Summaries and 1992 IPCC Supplement, Intergovernmental Panel on Climate Change, Canada: Intergovernmental Panel on Climate Change.

*---------- (1995), *Climate Change 1995: The Science of Climate Change: Contribution of Working Group,* Cambridge University Press: Geneva.

*---------- (2007), *Climate Change 2007: The Physical Science Basis*, Cambridge University Press: Geneva.

*---------- (2007), *Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Geneva: Intergovernmental Panel on Climate Change.*

*---------- (2013), *Summary for Policymakers, Climate Change 2013: The Physical Science Basis*, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S. K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)], Cambridge and New York: Cambridge University Press.

*---------- (n.d.) "IPCC Factsheet: What is the IPCC?," http://www.ipcc.ch/news_and_events/docs/factsheets/FS_what_ipcc.pdf, accessed on 2 November 2018.

Jasanoff, S. (1990), *The Fifth Branch: Science Advisers as Policymakers*, Cambridge: Harvard University Press.

Julin, J. (2003), "The OECD: Securing the Future", *OECD Observer*, 240-241(1): 48-52.

Kalogirou, S. (2010), "Climate change and small island states", *Energy*, 35(12): 4614-4616.

Kamga, S. (2016), "The G77 and the Transformation of Global Relations for a Just World: Challenges and Opportunities", *Africa Insight*, 46(1): 71-89.

Kasa, S., et al. (2008), "The Group of 77 in the International Climate Negotiations: Recent Developments and Future Directions", *International Environmental Agreements: Politics, Law and Economics*, 8(2): 113-127.

Keeling, C. D., Carter, A. F., and Mook, W. G. (1984), "Seasonal, Latitudinal, and Secular Variations in the Abundance and Isotope Ratios of Atmospheric CO 2", J. *Geophys. Res.* 89: 4615-4628.

Kellog W. (1987), "Mankind's impact on climate: The evolution of awareness", *Climate Change*, 10: 113-136.

Kellogg *et al.,* (1975), "Effect of Anthropogenic Aerosols on the Global Climate", *Proc. WMO/IMAP Symposium on Long-Term Climatic Fluctuations*: 323–330.

Kellogg, W (1979), "Influences of Mankind or Climate", in F. A. Donath, F. G. Stehli, and G. W. Wetherill (eds.) *Annual Reviews of Earth and Planetary Science,* Palo Alto: Annual Reviews Inc.

Kellogg, W (1987), "Mankind's Impact on Climate: The Evolution of an Awareness", *Climate Change,* (10): 113- 136.

Kelman, I. and J.J. West (2009), "Climate Change and Small Island Developing States: A Critical Review", *Ecological and Environmental Anthropology,* 5(1): 1-16.

Keohane, R.O. and D.G. Victor (2011), "The Regime Complex for Climate Change", *Perspectives on Politics,* 9(1): 7-23.

Kittikhoun, A. and T.G. Weiss (2011), "The Myth of Scholarly Irrelevance for the United Nations", *International Studies Review,* 13(1): 18-23.

Kjellen, Bo (1994), "A Personal Assessment", in Mintzer, Irving M. and Leonard, J. (eds.) *Negotiating Climate Change: The Inside Story of the Rio Convention*, Cambridge: Cambridge University Press.

Koremenos *et al.,* (2001), "The Rational Design of International Institutions", *International Organization,* 55(4): 761-799.

Lauter, David (1989), "In Policy Shift, U.S. Seeks Talks on Global Warming", *Los Angeles Times*, Los Angeles, 3 Dec 1989.

Lean, J., et al. (1995), "Reconstruction of Solar Irradiance since 1610: Implications for Climate Change", *Geophysical Research Letters,* 22(23): 3195-3198.

Levy, D.L. and D. Egan (1998), "Capital Contests: National and Transnational Channels of Corporate Influence on the Climate Change Negotiations", *Politics & Society,* 26(3): 337-361.

Levy, D.L. and D. Egan (2003), "A Neo-Gramscian Approach to Corporate Political Strategy: Conflict and Accommodation in the Climate Change Negotiations", *Journal of Management Studies,* 40(4): 803-829.

Levy, D.L. and P.J. Newell (2002), "Business Strategy and International Environmental Governance: Toward a neo-Gramscian Synthesis", *Global Environmental Politics*, 2(4): 84-101.

Luterbacher, U. and D.F. Sprinz (2001), *International Relations and Global Climate Change*, Cambridge: MIT Press.

Mackenzie, D. (1991), "America creates cold climate for greenhouse talks", *New Scientist*, (22): 16.

Maier, C.S. (1981), "The Two Postwar Eras and the Conditions for Stability in Twentieth-century Western Europe", *The American Historical Review*, 86(2): 327-352.

Malkawi, B.H. (2012), "Trade in Oil and Export Restrictions: Taking the Organization of the Petroleum Exporting Countries to the WTO Court", *European Journal of Reform*, 14(2): 17-56.

Marchant, G (1992), "Freezing Carbon Dioxide Emissions: An Offset Policy for Slowing Global Warming", *Environmental Law*, (22): 623

McCright, A.M. and R.E. Dunlap (2003), "Defeating Kyoto: The Conservative Movement's Impact on US Climate Change Policy", *Social Problems*, 50(3): 348-373.

McGourty, Christine (1988), "Global warming becomes an international political issue", *Nature*, (336): 194.

McIntyre, E. (1954), "Weighted voting in international organizations", *International Organization.* 8(4): 484- 497.

Mejía, A. (2010), *The Evolution of the Climate Change Regime: Beyond a North-South Divide?*, Barcelona: International Catalan Institute.

Mintzer, Irving M. and Leonard, J. (1994), "Vision of a Changing World", in Mintzer, Irving M. and Leonard, J. (eds.) *Negotiating Climate Change: The Inside Story of the Rio Convention*, Cambridge: Cambridge University Press.

Moravscsik, A. (1998*), The choice for Europe: Social purpose and state power from Messina to Maastricht*, Ithaca: Comell University Press.

Mortreux, C. and J. Barnett (2009), "Climate Change, Migration and Adaptation in Funafuti, Tuvalu", *Global environmental change*, 19(1): 105-112.

Najam, A. (2005), "Developing Countries and Global Environmental Governance: From Contestation to Participation to Engagement", *International Environmental Agreements: Politics, Law and Economics*, 5(3): 303-321.

Najam, A., et al. (2003), "Climate Negotiations beyond Kyoto: Developing Countries concerns and Interests", *Climate Policy*, 3(3): 221-231.

National Research Council (2001), *Climate Change Science: An Analysis of Some Key Questions*, Washington, D.C.: National Academies Press.

Newell, P. (2006), *Climate for Change: Non-state Actors and the Global Politics of the Greenhouse*, Cambridge: Cambridge University Press.

Nusser, R. (1992), "US may be less rigid on key environmental issues", *Earth Summit Times*, 24 February 1992.

Oeschger, H., Stauffer, B., Finkel, R., and Langway, C. (1985), "Variations of the CO2 Concentration of Occluded Air and of Anions and Dust in Polar Ice Cores", in E. T. Sundquist and W. S. Broecker (eds.) *The Carbon Cycle and Atmospheric CO2: Natural Variations Archean to Present*, Washington, D. C.: Geophysical Monograph 32, American Geophysical Union.

*OPEC (2012), *OPEC Statute*, Vienna: OPEC Secretariat.

Oreskes, N. (2004), "The Scientific Consensus on Climate Change", *Science*, 306(5702): 1686-1686.

*Organisation for Economic Co-operation and Development (2017), Organisation for Economic Co-operation and Development, "About the Organisation for Economic Co-operation and Development", [Online: web] 29 November 2017, Paris: http://www.oecd.org/about/.

*------- (n.d.), "History of the OECD", Accessed 8 November 2018 URL: http://www.oecd.org/general/historyoftheoecd.htm

*Organization of the Petroleum Exporting Countries (2017), "About Us", [Online: web] 28 November 2017, Vienna: http://www.opec.org/opec_web/en/17.htm.

Panjabi, R.K.L. (1992), "Can International Law improve the Climate: An Analysis of the United Nations Framework Convention on Climate Change signed at the Rio Summit in 1992", *North Carolina Journal of International Law and Commercial Regulation*, 18: 491-502.

Paterson, M. (1996), *Global Warming and Global Politics,* London: Routledge.

Paterson, M. (2003), *Global Warming and Global Politics,* New York: Routledge.

Plaut, S.E. (1981), "OPEC Is Not a Cartel", *Challenge,* 24(5): 18-24.

*President's Science Advisory Committee (1965), *Restoring the Quality of our Environment: Report of the Environmental Pollution Panel*, President's Science Advisory Committee, The White House, Washington, D.C.

Raustiala, K. (1997), "States, NGOs, and International Environmental Institutions", *International Studies Quarterly*, 41(4): 719-740.

Revelle, R (1985), "Introduction: The Scientific History of Carbon Dioxide", in E. T Sundquist and W. S. Broecker (eds.) *The Carbon Cycle and Atmospheric CO2: Natural Variations Arehean to Present,* Washington, D. C: Geophysical Monograph 32, American Geophysical Union.

Revelle, R. and Suess, H. E. (1957), "Carbon Dioxide Exchange Between Atmosphere and Ocean and the Question of an Increase of Atmospheric CO2 During the Past Decades", *Tellus,* (9): 18-27.

Riebeek, H. (2010), "Global Warming: Feature Articles", National Aeronautics and Space Administration, [Online: web] 9 December 2017, https://earthobservatory.nasa.gov/Features/GlobalWarming/page1.php.

Roberts, J.T. (2011), "Multipolarity and the new world (dis) order: US hegemonic decline and the fragmentation of the global climate regime", *Global Environmental Change,* 21(3): 776-784.

Robock, A. (2000), "Volcanic Eruptions and Climate", *Reviews of Geophysics,* 38(2): 191-219.

Sands, P. (1992), "The United Nations Framework Convention on Climate Change", *Review of European, Comparative & International Environmental Law,* 1(3): 270-277.

Sauvant, K. (1981), *The Group of 77: Evolution, Structure, Organization,* New York: Oceana Publications.Inc.

Schroeder, H. and H. Lovell (2012), "The Role of Non-nation-state actors and Side events in the International Climate Negotiations", *Climate Policy,* 12(1): 23-37.

Searwar, L. (1990), *Intrinsic Disabilities of Island Developing Countries*, United Nations Conference on Trade and Development, Geneva.

Sebenius, J.K (1991), "Designing Negotiations towards a New Regime: The Case of Global Warming", *International Security*, 15(4): 110-148.

Sewell, G.C. (1996), "Conflicting Beliefs: National Implementation of the United Nations Framework Convention on Climate Change", *Environmental Impact Assessment Review*, 16(3): 137-150.

Stern, N. (2006), *Stern Review on the Economics of Climate Change*, Cambridge: Cambridge University Press.

*Study of Critical Environment Problems (1970), *Man's Impact on the Global Climate: Report of the Study of Critical Environmental Problems*, The MIT Press: Cambridge.

*Study of Man's Impact on Climate (SMIC) (1971), *Inadvertent Climate Modification: Report of the Study of Man's Impact on Climate*, The MIT Press: Cambridge.

Swart, L., et al (2011), *The Group of 77: Perspectives on its Role in the General Assembly*, New York: Centre for UN Reform Education.

Thakur, R. and T.G. Weiss (2009), "United Nations "Policy": An Argument with Three Illustrations", *International Studies Perspectives*, 10(1): 18-35.

*The Group of 77 (1967), "First Ministerial Meeting of The Group Of 77: Charter of Algiers".

*The Group of 77 (n.d.), "General Information", Accessed 8 November 2018 URL: http://www.g77.org/doc/

*The Organization of the Petroleum Exporting Countries (OPEC), (n.d.), "Brief History", Accessed 9 November 2018 URL: https://www.opec.org/opec_web/en/about_us/24.htm

Tol, R. (2016), "Comment on 'Quantifying the Consensus on Anthropogenic Global Warming in the Scientific Literature'", *Environmental Research Letters*, 11(4): 048001.

Tompkins, E.L. and H. Amundsen (2008), "Perceptions of the Effectiveness of the United Nations Framework Convention on Climate Change in Advancing National Action on Climate Change", *Environmental Science & Policy*, 11(1): 1-13.

Toye, John. (2014), "Assessing the G77: 50 years after UNCTAD and 40 years after the NIEO", *Third World Quarterly*, 35(10): 1759–1774.

Trondal, J., et al. (2010), "The OECD Secretariat", *Unpacking International Organisations*, Manchester: Manchester University Press,

Tyndall, J (1863), "On Radiation Through the Earth's Atmosphere", *Philosophy Magazine*, (4): 200-207.

*UN Document (1989), "Hague Declaration", A/44.340-E/1989/120, annex.

Union of International Associations (2017), Union of International Associations, "Yearbook of International Organizations", [Online: web] 9 December 2017, Belgium: http://ybio.brillonline.com.ezproxy.jnu.ac.in.

*United Nations (1988), *Resolution on Protection of global climate for present and future generations of mankind*, UN Doc. A/RES/43/53, New York: United Nations.

*------ (1989), *Noordwijk Declaration on Atmospheric Pollution and Climate Change Ministerial Conference Held at Noordwijk, the Netherlands on 6th and 7th November 1989*, Noordwijk: Minister of Housing, Physical Planning and Environment.

*-------- (1989), *Resolution on Protection of global climate for present and future generations of mankind*, UN Doc. A/RES/44/207, New York: United Nations.

*-------- (1990), *Resolution on Protection of global climate for present and future generations of mankind*, UN Doc. A/RES/45/212, New York: United Nations.

*-------- (1990a), *Second World Climate Conference: Ministerial Declaration*, Geneva: World Meteorological Organization. *

*United Nations (1992), *The Rio Declaration on Environment and Development*, New York: United Nations.

*United Nations (1992), *United Nations Framework Convention on Climate Change*, New York: United Nations.

Van de Graaf, T. (2017), "Is OPEC dead? Oil exporters, the Paris agreement and the transition to a post-carbon world", *Energy Research & Social Science*, 23(Supplement C): 182-188.

Van der Wende, M. (2007), "Internationalization of Higher Education in the OECD Countries: Challenges and Opportunities for the Coming Decade", *Journal of Studies in International Education*, 11(3-4): 274-289

Vihma, A. (2010), *Elephant in the Room: The New G77 and China Dynamics in Climate Talks,* Finnish Institute of International Affairs, Helsinki.

Vihma, A., et al. (2011), "Negotiating Solidarity? The G77 through the Prism of Climate Change Negotiations", *Global Change, Peace & Security*, 23(3): 315-334.

Von Stein, J. (2008), "The International Law and Politics of Climate Change: Ratification of the United Nations Framework Convention and the Kyoto Protocol", *Journal of Conflict Resolution*, 52(2): 243-268.

Wallen, C (1980), "Monitoring Potential Agents of Climate Change", *Ambio*, (9): 222-228.

*WMO (1975), *Proceedings of the WMO/1AMAP Symposium on Long-Term Climatic Fluctuations,* World Meteorological Organization: Geneva.

*----- (1979), *Proceedings of the World Climate Conference, (Geneva, 12-13 February 1979),* World Meteorological Organization: Geneva.

*------ (1985), *International Assessment of the Role of Carbon Dioxide and of Other Greenhouse Gases in Climate Variations and Associated Impacts,* World Meteorological Organization: Villach, Austria.

*------ (1988a), *Proceedings of the World Conference on the Changing Atmosphere: Implications for Global Security, Toronto, June 27-30, 1988,* World Meteorological Organization: Toronto.

*------ (1979), *Proceedings of the World Climate Conference*, WMO Doc. No. 537, Geneva: World Meteorological Organization.

*----- (1985), *International Assessment of the Role of Carbon Dioxide and Other Greenhouse Gases in Climate Variations and Associated Impacts,* Villach: World Meteorological Organization.

Wood, R.E. (1986), *From Marshall Plan to Debt Crisis: Foreign Aid and Development Choices in the World Economy*, Berkeley and Los Angeles: University of California Press.

Yamin, F. and J. Depledge (2004), *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures*, Cambridge: Cambridge University Press.

Young, O. (1994), *International Governance: Protecting the Environment in a Stateless Society*, Ithaca: Cornell University Press.Adler, E. and P.M. Haas (1992), "Conclusion: Epistemic Communities, World Order, and the Creation of a Reflective Research Program", *International Organization*, 46(1): 367-390.

Zamora, S. (1980), "Voting in international economic organizations", *American Journal of International Law*, 74: 566–608.