Can International Law Improve the Climate - An Analysis of the United Nations Framework Convention on Climate Change Signed at the Rio Summit in 1992

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When delegates from one hundred and seventy-eight nations gathered at Rio de Janeiro, Brazil in June 1992 to attend the United Nations Conference on Environment and Development (UNCED), they were well aware that "[t]he road to environmental hell is paved with good intentions." Such awareness did not, unfortunately, generate the collective will needed to create a body of effective international law to deal with the serious environmental crises now facing all the inhabitants of this planet. Although there was no shortage of rhetoric at Rio, the formulations which will forever be associated with that mega-conference fall short of what was universally expected and what is now needed to remedy the pollution and atmospheric decline plaguing almost every part of the world. The Earth Summit, as this conference was popularly called, produced the Rio Declaration, a collection of rather ambiguous principles on environmental and developmental concerns; the enormous Agenda 21, a blueprint for environmental improvement which is going to cost the world so much that its implementation is questionable at best; and a

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non-binding statement on forestry which could some day develop into a legal convention.\(^3\) Also associated closely with the Rio Summit are two legally binding international treaties, the Convention on Biological Diversity\(^4\) and the Framework Convention on Climate Change.\(^5\)

This article will attempt an analysis of the Climate Change Convention and assess its significance within the global context of international problems which it attempted to resolve. Although the article will explore some controversial issues surrounding the Convention such as the position of the United States and the European initiative, it will not because of length constraints deal with the process by which the Convention was negotiated. Rather, the emphasis will be on international opinion about the Convention as it stands with some assessment of its future prospects for successful implementation. Clauses of the Treaty will be quoted in italics throughout the article. A brief summary of the entire Convention with appropriate footnote citations will precede the detailed analysis, where, for the reader's convenience, the number of the relevant article will be enclosed in brackets immediately following quotation of the provision. The clauses of the Convention will not be analyzed seriatim but under specific sub-headings, reflecting the major aspects of global politics which dominated the Convention and which continue to bedevil all attempts at environmental alleviation. Occasionally, it will be necessary to repeat the wording of a provision because of its relevance to various topics being discussed. Even though it would be impossible, given the length constraints of an article to analyze every clause, an attempt will be made to provide a fairly comprehensive view of the significant aspects of the Climate Change Convention so that the reader may determine whether the best of intentions will make any difference to the fate of the planet.

The analysis will hopefully clarify and explore the Treaty within a global context which is fraught with complex political and economic problems, problems which come to the fore whenever the world sets out to take action to change the way human beings interact with their planet. National self-interest, North-South economic divisions and a reluctance to take decisive measures to improve the environment all had an impact on the final convention on climate

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which was signed at Rio. There was no shortage of opinion on its pros and cons and as one commentator explains:

The . . . treaty has inspired wild verbiage. It’s anything from a last-ditch attempt to save a dying planet to a cynical plot to impose a socialist industrial order in the guise of climate protection. Global warming can engender such polar positions because the actuality of the subject is so pleasingly nebulous . . . . The greenhouse effect is a blank slate onto which partisans can project whatever they wish to behold.6

The Problem of Global Warming

Ivan Head comments that “[i]t is unlikely that any other single environmental issue contains a potential hazard to human well-being as great as climate change.”7 This single environmental issue has the potential to affect the political, economic and social systems of every nation on earth and it will take nothing short of a miracle to reverse the apparent damage which experts are now describing with a Cassandraesque sense of inevitable doom.

Basically, global warming concerns damage to the atmosphere surrounding this planet and nourishing its millions of life forms in a beneficent environment which, until man interfered, sustained all manner of plant and animal life for centuries. The atmosphere consists of “a mass of gasses that surrounds the earth and is bound to it by the force of gravity. The composition of the atmosphere consists overwhelmingly of nitrogen (about 78 per cent) and oxygen (about 21 per cent) that coexist in a constant, fixed proportion. The balance of 1 per cent is a mixture of several gases—carbon dioxide (CO$_2$), water vapour, argon, neon, helium, and methane (CH$_4$) among them.”8 In this very delicate, balanced system each component serves a vital function. Nitrogen and oxygen “are primary contributors to plant and animal life: nitrogen passes from the air into the soil where bacteria transform it into nitrates to be taken up as nourishment by plants; oxygen is our primary source of energy, responsible for the respiration of living organisms and the combustion.”9 It is man’s interference with this carefully balanced mechanism which has apparently resulted in climatic change.

The complexity of the global warming problem is exacerbated by the fact that the science surrounding it is as murky as the politics now engulfing this issue. As Stephen Strauss suggests, “[t]he science on this has the clarity of a mudpie.”10 International lawyers who turn to scientists for precise answers before formulating legal solu-

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6 Gregg Easterbrook, House of Cards, Newsweek, June 1, 1992, at 33.
8 Id. at 92.
9 Id.
tions find themselves facing uncertainty, contradictions and differing
conclusions—all of which render the task of creating international
law very difficult.

Global warming and consequent man-made climate change have
been linked to the acceleration of the greenhouse effect—the result
of approximately two centuries of industrialization. In non-scientific
layman's terms, there is a natural greenhouse effect:

short-wave solar radiation passes through a clear atmosphere rela-
tively unimpeded;—but long-wave radiation emitted by warm sur-
face of the Earth doesn't have such an easy time of it—some of it is
absorbed and then re-emitted by a number of trace gases in the
cooler atmosphere above—since the outgoing long-wave radiation
must, on average, balance the incoming short-wave radiation, both
the atmosphere and the Earth's surface will be much warmer than
they would be without these so-called 'greenhouse gases'.

The greenhouse effect occurs because "[w]ater vapor, carbon di-
obide, and a few other atmospheric gases act like the glass panes of a
greenhouse, allowing sunlight in to warm the planet but preventing
heat from escaping." The greenhouse gases "trap the reflected en-
ergy of the sun as it radiates outward from the earth's surface. The
mix of these greenhouse gases at any given time determines what
proportion of the radiation is contained and held close to the Earth.
This in turn determines the temperature of the surface itself."

Industrialization has contributed more greenhouse gases, spe-
cifically carbon dioxide and has added additional dimensions to the
problem through the extensive use on earth of CFCs (chlorofluoro-
carbons) which also deplete the ozone layer. Other gases respon-
sible for the problem include methane and "emissions from
automobiles, coal-burning industries and garbage dumps." As
Senate Majority Leader, George Mitchell explains, "[b]eginning with
the industrial revolution . . . man began burning fossil fuels—petro-
leum, coal, oil, and natural gas—at an unprecedented rate and
throwing their residues, the greenhouse gases they create, into the
atmosphere by the millions of tons annually . . . . The unavoidable
result has been what scientists call the 'greenhouse warming' of the
planet."

The greenhouse gases with the addition of man-made chemical compounds "are altering two of the atmosphere's primary functions: trapping the heat from the sun, and blocking some of the

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11 THOMAS H. SHILLINGTON, OUR CHANGING CLIMATE: BUILDING THE GLOBAL RE-
SPONSE (Environment Canada: Prepared for Climate Change Convention Negotiations Of-
fice Atmospheric Environment Services, 1991) 3.
12 Andrew Revkin, Let's Be Sensible About Global Warming, CHRISTIAN SCI. MONITOR,
June 30, 1992, at 19.
13 HEAD, supra note 7, at 92.
14 SHILLINGTON, supra note 11, at 3.
A1.
sun’s harmful radiation.”

The problem is that no one knows how much of these man-made emissions the earth’s systems can absorb safely before the entire atmosphere overloads with horrifying consequences for the future of all the species which now inhabit the Earth. Concern about the effect of these emissions has grown even though scientists are still scrambling to keep up with the popular demand for certainty and solutions. It is now widely believed that “human activity, mainly the combustion of fossil fuels, is causing the concentrations of these heat-trapping gases to increase at an unprecedented rate.”

Although scientists agree on the existence of the greenhouse effect, both natural and man-made, there is uncertainty regarding the impact of this phenomenon, the speed with which it operates and its ultimate consequences world-wide. “Determining how much or how little any given greenhouse gas contributes to temperature change has proved to be nightmarish.” Lacking scientific certainty, the consensus is to come down on the side of caution and act now to prevent catastrophe later. “Scientists generally agree that it has been getting warmer over the last hundred years.”

Environmental author, Andrew Revkin asserts that “[t]he planet is warming. There has been some criticism from skeptics who say that temperature records are inaccurate. But other data strongly support the idea that things are heating up . . . . The winter snow pack covering the northern hemisphere has retreated markedly over the past few decades.” Human activity and economic development have both had a dramatic impact on the earth’s land, its oceans and now its atmosphere. The human propensity to create and use masses of chemicals is partly to blame for the man-made greenhouse effect which is causing so much concern now.

As Vice-President Al Gore states, “[t]he chemical revolution has burst upon the world with awesome speed.” In view of the fact that world chemical production now doubles every seven or eight years, the atmospheric consequences of this massive utilization of chemicals are bound to become even more serious in coming years. The United Nations Environment Programme estimates that the human species has discovered or created over seven million chemicals, and commonly uses approximately eighty thousand of these.
The world is only now beginning to discover the consequences to land, water and air from this addiction to chemicals. The existence of waste products derived from chemical utilization is an issue which has caused universal concern. Essentially, the global warming problem is simply the result of human developmental activity and in that sense the parameters of the problem are similar to the consequences of deforestation, overuse of land and consequent desertification, depletion of scarce freshwater resources, pillaging of fish stocks from oceans and so on.

Man is now proving to be the most dangerous species ever created and the entire planet is reaping the results of what its dominant species has sown. Having polluted the oceans, killed freshwater lakes, deluged the earth with acid rain and destroyed the soil with contaminants, it comes as no surprise that the atmosphere is now also suffering from human depredation. The challenge is now to live human lives within the context of our chemically-oriented civilization but without destroying the environment in the process. Time alone will tell whether human beings will be able to cope. That the atmosphere is no longer coping as well as it once did is becoming more and more obvious with each passing year when those of us who live in northern climes like Canada find our winters becoming milder and our brief summers warmer. Whatever benefits this situation may have for those who have bravely endured the trials of Canadian winters is outweighed by the realization of the threat that global warming poses for all of us on the planet.

As Senate Majority Leader, George Mitchell comments, "[o]nce greenhouse gases get into the atmosphere, they are like the man who came to dinner; they stay. They can hang there for decades or centuries."

The dimensions of the atmospheric danger can be gauged by considering just one of the culprit gases, carbon dioxide or CO₂, "the gas with the highest public profile." Carbon dioxide, termed "the world environment's leading menace," poses a serious threat because it remains in the atmosphere for a long time and because it is still the primary gas responsible for climatic change.

Approximately fifty-five per cent of present global warming has been attributed to the presence of carbon dioxide. The burning of fossil fuel has resulted in the emission of about one hundred and eighty-five billion tons of CO₂ into the atmosphere since 1860. "Half the CO₂ added to the atmosphere in all of human history has been emit-

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27 Mitchell, supra note 16, at 49.
29 Shillington, supra note 11, at 5.
30 Mitchell, supra note 16, at 63.
ted in just the past 30 years."

Approximately seventy-five per cent of total CO₂ emissions originate in industrialized countries. Vice-President Gore concludes that it does not seem reasonable "or even ethical . . . to assume that it is probably all right to keep driving up CO₂ levels. In fact, it is almost certainly not all right." If, as has been suggested, human actions emit seven billion tons of carbon into the air annually, there is reason for alarm about the consequences of this tampering with the atmospheric balance. Vice-President Gore continues, "the artificial global warming we are causing threatens far more than a few degrees added to average temperatures: it threatens to destroy the climate equilibrium we have known for the entire history of human civilization. As the climate pattern begins to change, so too do the movements of the wind and rain, the floods and droughts, the grasslands and deserts, the insects and weeds, the feasts and famines, the seasons of peace and war."

There is a definite need for more scientific research and this point was emphasized by G.O.P. Obasi, Secretary-General of the World Meteorological Organization (WMO) who told delegates at UNCED that "[w]ith the advent of satellites and computers, our understanding of the global climate system, including knowledge of its interactions and processes, has increased dramatically over the past few years. Nonetheless, WMO is among the first to recognize that new types of information are needed and much more research will have to take place, so as to answer urgent questions now facing us, such as the timing, magnitude and regional pattern of the expected climate change."

The Impact of Climate Change

The international dedication to resolving the problem of global warming and climate change is dependent on the degree of seriousness with which one considers the threat of this phenomenon. As Andrew Revkin states, "[g]lobal warming presents a critical test of two uniquely human attributes: reason and foresight. It is up to all of us to seek out the facts and decide on a course of action." If one agrees that there is a majority consensus among scientists about the severity of the problem, and if "levels of carbon dioxide continue
to rise at the current rate, there is a significant chance that disruptive
climate shifts will occur within the lifetimes of children born to-
day."³⁹ Given this scenario, the threat is imminent and the need for
environmentally effective action urgent.

The United Nations Environment Programme predicts that over
the next five to ten decades the trapping of additional heat because
of human-made gases could "result in a severe decline in productiv-
ity in some regions, shifts in climate zones toward the poles, rising
ocean levels and extensive flooding, and accelerated animal and bird
extinctions."⁴⁰ To this depressing prediction, Andrew Revkin adds
the possibility of "wars over shrinking water supplies."⁴¹ For a re-
source-rich developed nation like Canada, the impact on fisheries,
prairie wheat production, forests and fruit orchards could be seri-
ous.⁴² The decade of the 1980s produced five of the ten hottest
summers in Canada.⁴³

For the United States, economist William Cline of the Institute
for International Economics, projects that global warming of 2.5 de-
grees could lower American economic output by one percent by the
year 2050.⁴⁴ This may not seem like much but the cost could be at
least sixty billion dollars annually by the middle of the next cen-
tury.⁴⁵ "The $60 billion-a-year cost to the U.S. economy includes
$18-billion in agricultural losses, $11-billion for extra air condition-
ing, $7-billion for water and $7-billion in land loss and dike building
as oceans rise."⁴⁶

A study commissioned by the United States Environment Pro-
tection Agency and carried out jointly by Oxford University and the
New York Goddard Institute for Space Studies concluded in its 1992
report that global warming would result in poorer crop yields in de-
veloping countries, "adding up to 360 million people to those at risk
from hunger in the next century."⁴⁷ The devastation caused by
global warming is likely to have its worst impact on those areas which
are economically underdeveloped and therefore least likely to be
able to cope with this added economic problem. As Martin Parry,
head of Oxford's environmental change department concluded
about the threat to agriculture, "[t]he balance of likelihood is on the

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³⁹ Revkin, supra note 12, at 19.
⁴⁰ Scott Stevens et al., Global Resources and Systems at Risk, CHRISTIAN SCI. MONITOR,
June 2, 1992, at 11.
⁴¹ Revkin, supra note 12, at 19.
⁴² SHILLINGTON, supra note 11, at 8.
⁴³ Id. at 6.
⁴⁴ Peter Cook, How Much is Our Children's Future Worth?, GLOBE & MAIL, June 3, 1992,
at B1, B10.
⁴⁶ Id.
⁴⁷ Michael McCarthy, Climate Shift Puts 360m More People at Famine Risk, THE TIMES
Although the predictions are frightening, they are not exact because the number of variables which have to be considered leave even the most complex of computers projecting a variety of scenarios depending on the factors they have to weigh. This only adds to popular confusion, misconception and a dangerous degree of complacency about the problem. As the world’s first Climate Conference occurred in 1979, there is now an established lengthy history of international action, research and consequent studies on the subject. However, effective implementation to remedy the problems which affect our climate continues to be elusive.

In 1990, the Intergovernmental Panel on Climate Change (IPCC) wrote a report on the scientific aspects of climate change. The report was the result of a joint effort by the United Nations Environment Programme and the World Meteorological Organization to gather the knowledge of the world’s experts on this complex issue. The IPCC was established in 1988 to assess scientific knowledge about the climate. The team of one hundred and seventy scientists from a number of countries based the 1990 projections on a variety of scenarios for future emissions of carbon dioxide (CO₂) and other greenhouse gases. The IPCC Report concluded “that the future warming rate could speed up considerably, with Earth’s mean temperature climbing about 1.12 degrees Celsius by 2025 and 2.7 degrees by 2100.” Given present trends of reliance on coal, current levels of deforestation until this resource is depleted and modest checks on carbon dioxide emissions, IPCC projections estimate a sea level rise of twenty centimetres by 2030 and sixty-five centimetres by 2100. Conceding that over the past hundred years, Earth’s temperature has risen by about half a degree Celsius and that the level of the oceans has risen by ten to twenty centimetres, the IPCC also stated that these developments are “of the same magnitude as natural climate variability.”

IPCC projections of global warming have been revised, specifically by the work of climatologists Tom Wigley and Sarah Raper of the University of East Anglia in England. The figures have been pushed downward to a ‘best guess’ now of 2.5 degree warming and a forty-eight centimetre sea level rise. Wigley and Raper caution

48 Id.
50 Global Warming May Be Just Lot of Hot Air, supra note 20, at A10.
53 Id.
54 Global Warming May Be Just Lot of Hot Air, supra note 20, at A10.
55 SHILLINGTON, supra note 11, at 6.
56 Global Warming May Be Just Lot of Hot Air, supra note 20, at A10.
against optimism because of their research, insisting that “the warming corresponds to a rate roughly five times that observed over the past century and the sea level rise is at a rate roughly four times that estimated for the past century.” All of this leaves the non-scientist layman, particularly the international lawyer, in considerable doubt and confusion. Henry Hengeveld of the Atmospheric Environment Service in Toronto explains that “[t]he evidence of scientific facts is a bit of a myth.” A number of climatologists feel that “there is no doubt that humans are perturbing the climate system. But computer simulations can’t yet tell exactly how that system will adjust. They can’t deal well with clouds and moisture or with the effect of the oceans.” Henry Hengeveld describes the scientific process which leads to all these contradictory conclusions, “[w]hat happens is that we have pieces of facts which converge to support conclusions, but these happen to be built on subjective evaluations. Personal expectations do influence how we interpret the evidence before us.”

The International Political Response to Global Warming

The contradictions in science have been amply reflected in the positions taken by politicians on this issue of global warming and its likely consequences. It is this lack of scientific certainty which has bedeviled attempts to deal resoundingly with the problem of climate change. “Indeed, the greenhouse effect has become such a source of dispute and speculation that it serves as a sterling example of the way political decision making and popular understanding can lose their way in the scientific thicket.” It is important to keep this fact in mind when analyzing the Climate Convention signed at the Rio Earth Summit. As The Economist points out:

Although there are good grounds for believing that the accumulation of greenhouse gases in the atmosphere will warm the planet, there is much less certainty about the pattern which that warming will take, let alone its impact. Scientists are unsure about the extent to which warming will be offset or reinforced, or about the speed with which it will occur. They are unsure how far expanding oceans will raise sea levels, or whether and where droughts and rainfall will increase . . . . It is as yet impossible to predict which countries may gain, which lose, and how.

Considering the extent of technical confusion and uncertainty, the global reaction to the problem has been both surprising and encouraging. If the measures are weak and lack teeth, that is a situation

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57 Cowen, supra note 52, at 8 (quoting Tom M.C. Wigley & Sarah C.B. Raper, Implication for Climate and Sea Level of Revised IPCC Emissions Scenarios, 357 Nature 293, 299 (1992)).
59 Cowen, supra note 52, at 8.
60 Strauss, supra note 10, at A6.
61 Id.
which can be rectified as the awareness of the serious nature of this
environmental problem grows. Indeed some commentators are
amazed at the fact that the world’s politicians have actually managed
to produce an international convention concerning a matter which is
scientifically still riddled with contradictions, however strong the un-
derlying message of alarm sounded by many climate experts. “That
the world’s nations have already agreed on a treaty on climate
change . . . is extraordinary. It is, after all, less than a decade since
global warming was first discussed outside laboratories.”63 The
United Nations has, for once, not been dilatory in debating and in-
creasing international awareness about the possible dangers of cli-
mate change. It is encouraging to observe the United Nations
responding to avert catastrophe rather than waiting around to react
to it once it occurs. The significance of the Climate Change Conven-
tion goes far beyond the problem of global warming because it indi-
cates a new, refreshing trend in global political cooperation—a trend
which may err on the side of caution and hopefully save the environ-
ment of spaceship Earth for future generations. Given the diversity
of scientific conclusions, the divergence of international opinion and
the opinions of various vested interests in both the developing and
developed world, the creation of an initial Convention is a substan-
tial achievement.

It would be worthwhile briefly to examine a few of the interna-
tional measures taken with respect to climate change. Given its
length constraints, this article certainly cannot discuss all the interna-
tional formulations which preceded the Climate Change Convention
of 1992. Accordingly, a brief two-year period preceding UNCED is
all one can consider here, though the reader is reminded that the
United Nations General Assembly had passed resolutions on the cli-
mate issue in previous years. A brief overview of the plethora of in-
ternational activity just prior to UNCED will hopefully establish, first
the degree of concern which propelled the formulation of the Con-
vention and second the significance globally of the issue. This back-
ground will also set the stage for the analysis of the Convention and
explain why the Treaty could not be stronger in the obligations it
imposed on signatory nations.

By 27th January 1989, the United Nations General Assembly
had already adopted its resolution for the Protection of Global Cli-
mate for Present and Future Generations of Mankind, a resolution
which recognized that “climate change is a common concern of man-
kind,” and directing United Nations officials to prepare for a “possible
future international convention on climate.”64 In the following

63 Id.
64 G.A. Res. 53, Protection of Global Climate for Present and Future Generations of Mankind,
year, the General Assembly reiterated its call for negotiations on a framework convention on climate, declared it a matter of urgency and proposed that the convention include concrete commitments "in the light of priorities that may be authoritatively identified on the basis of sound scientific knowledge." In March 1990, the General Assembly declared "[p]rotection of the atmosphere by combating climate change" an environmental issue of major concern.

Regional activity resulted in the development of bodies of consensus on the significant issues related to climate change in particular areas. The Kenyans hosted a conference in May 1990 to explore the possible "impacts of global climatic change on the ecosystems, economies and infrastructure of African Countries." The consequent Nairobi Declaration emphasized the need for action to reduce greenhouse gas emissions; called for economic diversification, the promotion of afforestation and reforestation; supported research on climate change and its impact on coastal areas, agriculture and livestock; and, significantly, endorsed the substantial reduction of greenhouse emissions by the year 2005.

The European Community (EC) was also active in this area, meeting at Luxembourg on 29th October 1990 to adopt a common declaration on global warming, reflecting a "common stand . . . to lead the international effort to curb greenhouse gases." The twenty-four Community Ministers agreed to stabilize CO₂ emissions at Community level by the year 2000. A few days later, on 5th November 1990, the Environmental Ministers of the European Free Trade Area (Austria, Finland, Iceland, Norway, Sweden and Switzerland) endorsed the freezing of CO₂ emissions by the year 2000.

At its forty-fifth session which convened in 1990, the U.N. General Assembly received the Report of the Secretary-General on the Protection of Global Climate for Present and Future Generations of Mankind. On 21st December 1990, the General Assembly adopted another Resolution on climate establishing a broad based negotiation process for the creation of the convention and specified that the climate convention should be completed prior to the UNCED Con-

70 Id.
conference in June 1992 so that it could be opened for signature during that conference.\textsuperscript{78}

The General Assembly also took account of the contents of the Ministerial Declaration adopted at the Second World Climate Conference, held at Geneva between 29th October and 7th November 1990.\textsuperscript{74} That conference, organized by a group of United Nations agencies concluded that "[c]limate issues . . . are increasingly pivotal in determining future environmental and economic well-being . . . . If the increase of greenhouse gas concentrations is not limited, the predicted climate change would place stresses on natural and social systems unprecedented in the past 10,000 years."\textsuperscript{75} The seven hundred and forty-seven participants representing one hundred and twenty countries\textsuperscript{76} stated that a clear scientific consensus had "emerged on estimates of the range of global warming which can be expected during the twenty-first century," and suggested that "notwithstanding scientific and economic uncertainties, nations should now take steps towards reducing sources and increasing sinks of greenhouse gases through national and regional actions, and negotiation of a global convention on climate change and related legal instruments."\textsuperscript{77} The Conference cautioned that "[t]he remaining uncertainties must not be the basis for deferring societal responses to these risks."\textsuperscript{78} The Conference Statement also stressed the fact that "[c]limate change may compound existing serious problems of the global mismatch between resources, population and consumption. In many cases the impacts will be felt most severely in regions already under stress, mainly in developing countries."\textsuperscript{79}

In 1991 the process for the creation of the framework convention on climate change commenced with the initial session held in the United States of America between 4th and 14th February 1991. That process with all its bitterness, intensity of viewpoints and somewhat frustrating outcome is not the subject matter of this article. Suffice to say that the following analysis will inevitably have to explore some aspects of the divergence which arose particularly with respect to the controversial position taken by the Bush Administration of the United States.

\textsuperscript{74} Id.
\textsuperscript{76} Id. at 2.
\textsuperscript{77} Id. at 3.
\textsuperscript{78} Id.
No less controversial, from the international perspective, was the Tlatelolco Platform on Environment and Development adopted by Latin American and Caribbean governments meeting between 1st and 7th March 1991. This declaration endorsed what might be called the standard developing nation stance, emphasizing the responsibility of developed nations for the greenhouse gas emissions and the vulnerability of Latin American and Caribbean islands to the consequences of climate change. The members of the Economic Commission for Latin America and the Caribbean (ECLAC) insisted that “their participation in any agreed solution should be consonant with the economic and technical resources available to the developing countries.”

The Declaration adopted by developing nations meeting in Beijing, China on 19th June 1991 was even more blunt in asserting the claims of the South. The ministers of forty-one developing nations voiced their concern over the “accelerating degradation of the global environment;” and insisted that “it is the developed countries which are mainly responsible for excessive emissions of greenhouse gases, historically and currently, and it is these developed countries which must take immediate action to stabilize and reduce such emissions.” It was more alarming to note the strident assertion that “[d]eveloping countries cannot be expected to accept any obligations in the near future.” More predictably, these nations insisted that the convention being negotiated must include ... firm commitments by developed countries towards the transfer of technology to developing countries, the establishment of a separate funding mechanism, and the development of the economically viable, new and renewable energy sources as well as sustainable agricultural practices, which constitute an important step to deal with the major cause of climate change. In addition, the developing countries must be provided with the full scientific, technical and financial cooperation necessary to cope with the adverse impacts of climate change.

With respect to the climate change problem, the tone of developing nations was somewhat moderated by 29th April 1992 when the Ministers of fifty-five developing countries issued the Kuala Lumpur Declaration following a three day meeting in Malaysia. In this Declaration, signatories urged the “developed countries to undertake meaningful and specific commitments on the stabilization and reduction of emissions of carbon dioxide and other greenhouse gases.”

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82 Id. at para. 13, reprinted in 21 Env't. Pol'y & L. at 268.
83 Id.
Earlier, on 19th December 1991, the United Nations General Assembly passed a resolution in an attempt to give a boost to the negotiating process for a convention on climate change, urging its speedy and successful completion. Meanwhile as the deadline for the opening of UNCED approached, there was a flurry of activity in other sectors, specifically, the Governing Council of the United Nations Environment Programme (UNEP) had called for all states to support implementation of the World Climate Programme; the creation of a Global Climate Observing System to observe the weather (World Weather Watch), the atmosphere (Global Atmosphere Watch) and oceans (Global Ocean Observing System). The preparatory committees of UNCED were also concerned with the issue of climate change generally and its specific aspects, such as transboundary air pollution, energy transition and energy supply. All these factors will, if implemented successfully and meaningfully, have an impact on the process of reversing the negative consequences of climate change.

An excellent factual summary of the activity preceding the adoption of the Convention is contained in the Report of the Chairman (Jean Ripert of France) of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (1st June 1992).

Clearly, the issue of climate change has received international attention, at least at the level of formulating resolutions and issuing declarations relevant to rectification of the problem. It is unfortunate that the level of active implementation does not yet match the range of enthusiastic verbal activity in this field of environmentalism. However, the plethora of resolutions, declarations and formulations do bring the matter to the forefront of international attention and with heightened awareness, hopefully, some day really strong measures will be taken by all nations in the world. As Jean Ripert empha-

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sized, "countries are now agreed that, for present and future generations of mankind, something must be done to protect the global climate from anthropogenic change: the Convention is a good beginning."  

A Brief Summary of the Convention

In order to analyze the Convention, it would be useful briefly to summarize its main provisions so that the reader has a point of general reference to comprehend the specific topical discussion which follows this section.

The Convention defines climate change to signify 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. The Convention acknowledges that change in the Earth’s climate and its adverse effects are a common concern of humankind; that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries; and that developing countries have special difficulties because their economies are particularly dependent on fossil fuel production, use and exportation, and therefore will require access to resources... to achieve sustainable social and economic development.

The basic objective of the Convention is rather vaguely stated: 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. The Convention concerns itself with greenhouse gases not controlled by the Montreal Protocol.

The Convention adopts the precautionary approach: 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.

Acknowledging the existence of common but differentiated responsibilities, developed nations are to take the lead in combating climate change...

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89 Id. at 1719.
90 Framework Convention on Climate Change, supra note 5, art. 1.1, 31 I.L.M. at 853.
91 Id. 31 I.L.M. at 854.
92 Id. 31 I.L.M. at 854.
93 Id. 31 I.L.M. at 854.
94 Id. 31 I.L.M. at 853.
95 Id. objective, 31 I.L.M. at 854.
96 Id. art. 4.2(a), (b), 31 I.L.M. at 855.
97 Id. art. 3.3, 31 I.L.M. at 854.
98 Id. principle 1, 31 I.L.M. at 854.
and the adverse effects thereof. The Convention accordingly endorses the precautionary principle; declares that sustainable development is a right, and cautions against environmental measures becoming a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

Signatory nations enter into a series of commitments to develop national inventories of emissions, implement national programs to mitigate climate change, cooperate in the process of technology transfer, develop plans for conservation of sinks and reservoirs of greenhouse gases, coastal zone management, water resources and agriculture and participate in education programs to increase public awareness about climate change. Encouragement is given to the idea of developing international programs aimed at defining, conducting, assessing and financing research, data collection and systematic observation.

There is also provision made for periodic reporting on progress made by parties which are mainly developed countries and those former communist states now termed economies in transition. These two groups of nations have special responsibility to take the lead in implementing measures to limit emissions, recognizing that the return by the end of the present decade to earlier levels of anthropogenic emissions of carbon dioxide and other greenhouse gases would contribute to mitigating the effects of climatic change. The language is so ambiguous as to be almost meaningless. The target is to return to 1990 levels of CO₂ emissions but no firm deadline is specified. It is important to note that some of the Convention's clauses are subject to periodic review and amendment.

The participation of developing countries is conditional: 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

99 Id. 31 I.L.M. at 854.
100 Id. principle 3, 31 I.L.M. at 854.
101 Id. principle 4, 31 I.L.M. at 855.
102 Id. principle 5, 31 I.L.M. at 855.
103 Id. art. 4.1(a), 31 I.L.M. at 855.
104 Id. art. 4.1(b), 31 I.L.M. at 855.
105 Id. art. 4.1(c), 31 I.L.M. at 855.
106 Id. art. 4.1(d), (e), 31 I.L.M. at 855.
107 Id. art. 4.1(e), 31 I.L.M. at 856.
108 Id. art. 4.2(a), 31 I.L.M. at 859.
109 Id. art. 4.2(b), 31 I.L.M. at 857.
110 Id. art. 4.2(b), 31 I.L.M. at 857.
111 Id. art. 4.2(d), 31 I.L.M. at 857.
that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties. The Convention establishes a Conference of the Parties, to promote information exchange, assess the implementation of the Convention by Parties, make recommendations pursuant to the goal of implementation, and mobilize financial resources. A Secretariat is also established to perform the usual administrative functions of such bodies and 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. The Convention also establishes a subsidiary body for scientific and technological advice to assess the state of scientific knowledge relating to climate change and its effects, advise on the important issue of technology transfer and provide advice on ways and means of supporting endogenous capacity-building in developing countries. The Convention also creates a subsidiary body (open to participation by all signatories) for implementation to assist the Conference of the Parties. The financial provisions of the Climate Change Treaty call for equitable and balanced representation of all Parties within a transparent system of governance. Article 11 on Financial Mechanism states, in somewhat nebulous terms that [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. On an interim basis the Global Environment Facility of the United Nations Development Programme, the United Nations Environment Programme and the International Bank for Reconstruction and Development constitute the international entities allotted the task of operating the financial mechanism. The same article specifies that the Global En-

113 Id. art. 4.7, 31 I.L.M. at 858.
114 Id. art. 7.1, 31 I.L.M. at 860.
115 Id., art. 7.2(b), 31 I.L.M. at 861.
116 Id. art. 7.2(e), 31 I.L.M. at 861.
117 Id. art. 7.2(g), 31 I.L.M. at 861.
118 Id. art. 7.2(h), 31 I.L.M. at 861.
119 Id. art. 8.1, 31 I.L.M. at 862.
120 Id. art. 8.2(c), 31 I.L.M. at 862.
121 Id. art. 9.1, 31 I.L.M. at 863.
122 Id. art. 9.2(a), 31 I.L.M. at 863.
123 Id. art. 9.2(e), 31 I.L.M. at 863.
124 Id. art. 9.2(c), 31 I.L.M. at 863.
125 Id. art. 9.2(d), 31 I.L.M. at 863.
126 Id. art. 10.1, 31 I.L.M. at 863.
127 Id. art. 11.2, 31 I.L.M. at 864.
128 Id. art. 11.1, 31 I.L.M. at 864.
129 Id. art. 21.3, 31 I.L.M. at 870.
As regards the settlement of disputes between Parties, there are provisions made for negotiation, or other peaceful means chosen by the Parties. Parties may also resort to the International Court of Justice and/or binding arbitration. Parties are not allowed to make reservations to the Convention. The Convention may be amended, either by consensus or by a three-fourths majority of the Parties present and voting.

**The Government of the United States and the Climate Change Convention**

What was excluded from the Climate Change Convention was as important as what was ultimately accepted. The most controversial issue related to the desire of the majority of negotiating nations to impose firm time deadlines for the reduction of greenhouse gases and the successful resistance of one nation to that goal. It was the Bush Government of the United States of America which drew the most condemnation, nationally and internationally for its environmental positions in the pre-Rio series of negotiations. The Americans took a firm stand against definite deadlines and ultimately prevailed.

The United States emits the largest share of greenhouse gases of any nation on Earth, approximately 17.6 percent of the total. With a mere five percent of the world’s population, the United States consumes twenty-five percent of global energy and emits twenty-two percent of all CO$_2$ produced. One nation, the United States, in emitting almost a quarter of the annual carbon dioxide produced, contributes as much to global warming as all the developing countries combined—and there are over a hundred such nations now.

Although the Environmental Protection Agency (EPA) revealed that about one million tons of dangerous chemicals were emitted into the air in 1987, the reaction of the Government of the United States was cautious. Equally cautious was President Bush's stand on the global warming issue, a vital environmental cause in which regrettably, the United States lost the initiative and ultimately gained

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130 Id. art. 21.3, 31 I.L.M. at 870.
131 Id. art. 14.1, 31 I.L.M. at 867.
132 Id. art. 14.2(a), (b), 31 I.L.M. at 867.
133 Id. art. 24, 31 I.L.M. at 871.
134 Id. art. 15.3, 31 I.L.M. at 868.
135 HEAD, supra note 7, at 93.
136 Philip Elmer-Dewitt, *Summit to Save the Earth: Rich vs. Poor*, TIME (Canada), June 1, 1992, at 42.
only opprobrium from the rest of the world. As journalist Christopher Young commented, “American leadership of a new world order has been stopped cold on the environmental front.” Leading the Senate delegation to the Rio Earth Summit, then Senator Al Gore was critical of President Bush for failing to play “a leadership role on global environmental preservation.” The Christian Science Monitor, in an Editorial, contrasted the positions of Republicans and Democrats in the 1992 election campaign, the latter party insisting the United States “must become a leader in the fight against global warming, agreeing to limit carbon dioxide emissions to 1990 levels by the year 2000,” while the Republicans stressed development compatible with conservation.

The dilemma confronting the Bush Administration was explained by former Undersecretary of State, David Newsom who indicated that because the United States emits the most gases damaging the climate and because of its wealth, “Washington will be expected to take a leading role in measures to reverse environmental decline and contribute to the related costs.” Newsom suggested that there was an “ideological resistance in a conservative administration to any acceptance of scientific evidence of global warming.” John Knauss, Head of the American delegation to the Second World Climate Conference in Geneva in 1990 made it very clear that his country “was not prepared to bind itself to any target percentages for reductions which we are not able to guarantee to fulfill.”

President Bush apparently believed that there was “insufficient scientific data on which to base rational policy decisions” on global warming and the American delegation to the Convention’s negotiations process resisted all efforts to establish firm time deadlines for the reduction of emissions. When the opposition of European and other nations became very strong, the American President made his attendance at the Summit conditional on global acquiescence to the American position. His spokesman announced that President Bush would “not attend ... unless the rest of the world backs down on limiting earth-warming carbon dioxide gases.” The Times of London reported that “Mr. Bush had held back from announcing his

143 Id.
146 Bush Threatens Boycott of Earth Summit in Brazil, GLOBE & MAIL, March 30, 1992, at A8 [hereinafter *Bush Threatens Boycott*].
attendance until the international treaty on global warming . . . had been negotiated to the satisfaction of the [United States]. At American insistence the treaty as it stands now contains no legally binding commitments to control emissions of gases thought to be causing the greenhouse effect such as carbon dioxide, of which the [United States] is the world's biggest producer.”

One important reason for the reluctance of the President to participate in a strong treaty on this subject was his conviction that measures aimed at precise reduction of greenhouse gases would threaten the American economy and jobs—a vital factor for a President going into an election during an economic recession. As he confronted the vital environmental issues posed at Rio, the American President was also aware that unemployment in his country had reached seven and a half percent, its worst point in about eight years. Speaking to a group of business executives, President Bush expressed his concern that the Rio Summit might limit his nation “to a course of action that could dramatically impede long-term economic growth in this country.”

The United States Department of Energy concluded that emission reduction measures would have an adverse economic impact because of the nation’s reliance on coal and oil. Hence, facing the environment/development dichotomy which was at the very heart of UNCED, the leader of the world’s only remaining superpower, settled very clearly for development, even at the expense of environment.

This presidential position was unfortunate in terms of environmentalism but not inconsistent with the conservative ethic which deplores the proliferation of governmental regulation on business. Peter Stothard of The Times of London commented that “[o]pposition to timetables and targets at Rio became . . . a mantra for the Republican right.”

This attitude toward environmental regulation is not, however, exclusively a matter of ideology. There is the issue of cost as well to be considered. Robert Crandall of the Brookings Institution in Washington suggested that “the full cost of environmental policy will soon exceed defense spending” (which almost totalled three hundred billion dollars a year in 1992). The Environmental Protection Agency has estimated that pollution control would cost the

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148 Bush Threatens Boycott, supra note 146, at A8.
151 Knickerbocker, supra note 137, at 11.
nation more than one and a half trillion dollars in this decade of the 1990's. 154

To counter the avalanche of hostile international publicity, President Bush (who eventually did attend the Summit, to become its most controversial participant) proposed to delegates at UNCED that participating countries meet the following year "to lay out our national plans for meeting the specific commitments in the Framework Convention. Let us join in translating the words spoken here into concrete action to protect the planet." 155 Having done its utmost to weaken the Treaty, it now appeared that the United States would take the lead in "speedier implementation" of its provisions. 156

As Alden Meyer, Director of the Program on Climate Change and Energy of the Union of Concerned Scientists suggested, "the United States is probably likely to exceed the European goals, even though we won't commit to them." 157 The United States also "pledged $75 million in aid to developing countries to help them curb the emissions believed to cause climate change." 158 The contradictions in the American position were apparent to many observers of the negotiation process for the Climate Change Convention. As The Times of London explained in an Editorial, "America's Clean Air Act will probably bring its CO₂ emissions within the targets President Bush has declined to endorse." 159 The Christian Science Monitor also believed that "the [United States] might have little problem meeting the proposed standard of holding CO₂ emissions to 1990 levels." 160 Given these facts, the position of the American President would, in retrospect, appear to have been unnecessarily risky, risky both to the global leadership expected of the United States and ultimately jeopardous to his re-election as President.

The Head of the United States delegation to the Earth Summit, William K. Reilly, Chief Administrator of the Environmental Protection Agency tried to put the best face on the public relations disaster his country faced at Rio by emphasizing his nation's strong support for the convention and by informing delegates that "[t]he United States has taken the lead in developing an action plan for controlling greenhouse gases that is detailed and effective. Most of these actions

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157 Id. at 4.
Another attempt to win back international support was by aggressive American lobbying for a forestry agreement. The protection of forests, especially tropical forests has been a significant American initiative. Space constraints preclude detailed discussion of this issue here. Suffice to say that though the Americans secured a non-binding agreement on the forestry, they failed to get the developing nations, which still enjoy the luxury of vast forest resources, to accept legally binding commitments to conserve their forests. Indeed, seen in the context of American resistance to strengthening the Climate Change Convention, the forest initiative was cynically perceived by delegates from the developing world. The White House was accused of attempting "to win agreement on the preservation of the tropical rainforests as carbon dioxide 'sinks' so that the [United States] will not have to join other developed countries in setting timetables to reduce its own emissions of greenhouses gases." President Bush was also accused of being "willing to reduce carbon emissions into the atmosphere from third-world forests but not from American smokestacks and tailpipes."

In a very real sense President Bush was on the horns of a dilemma which defied solution. Facing re-election in a recessionary economy, he believed that environmental issues had to accommodate one priority, namely that the American lifestyle would not be negotiable. He also had to accommodate the diverse elements within the Republican party which emphasize the primacy of business and free market systems. Responding to his obvious plight, The Globe and Mail suggested that "Bush is a perfect presidential name, considering all the hedging he has to do." Political necessity dictated that the man who had portrayed himself as the environmental president would conclude his career being termed the "dead weight of the environmental world order."

The European Initiative to Strengthen the Climate Change Convention

The extent of dissatisfaction with the United States position can be gauged by the fact that a number of European countries at-
tempted some last ditch efforts to sponsor a declaration which would strengthen the commitments contained in the Framework Convention on Climate Change. The mainspring of the movement was the Austrian Government, specifically its Environment Minister, Ruth Feldgrill-Zankel. Some of the other supporting countries were Switzerland and Liechtenstein. After signing the Climate Change Convention, these three nations issued a joint Declaration which stated that they would “continue to implement the measures that are necessary at least to stabilize, as a first step, their CO₂ emissions by the year 2000 at the level of 1990, and to reduce thereafter their emissions of CO₂ and other greenhouse gases . . . on the basis of national policies and strategies, taking into account the best available scientific, technical and economic evidence.”

This document then urged “other countries, in particular industrialized countries to . . . achieve the earliest and most effective operation of the Convention.”

The European initiative garnered international publicity for the cause of climate change and highlighted the fundamental differences between the United States of America and the majority of nations. That in this instance, a minority of one had prevailed testifies to the very real strength of the United States in international negotiations. According to The New York Times, Austria was firmly supported by Switzerland and the Netherlands, with all three nations having tried very hard but unsuccessfully to negotiate a stronger treaty. Richard Mott of the World Wildlife Fund commented that the three European states were very frustrated and were “trying to put the limelight on the countries that [had] weakened the treaty.”

The Austrians denied that their efforts were aimed against the United States. As one Canadian environmentalist argued, “[n]obody is isolating the Americans—they have isolated themselves.” However, the Canadian Government sensed a real danger in supporting the Austrian declaration because of a fear of isolating the Americans. It was apparent that Ruth Feldgrill-Zankel did not approve of the American President’s position on global warming. She explained that she could not “understand why the United States sees an opposition between the environment and the economy.”

167 Statement and Declaration by Austria, Liechtenstein and Switzerland.
168 Id.
170 Id.
172 Id.
173 Id.
It was also reported that Germany and other European nations were separately seeking support "for the rapid adoption of a treaty protocol to impose targets and timetables."\textsuperscript{175} William Reilly, Head of the United States delegation said that his country would block the German initiative\textsuperscript{176} and the United States was alleged to have sent a 'threatening' letter to the Government of Austria.\textsuperscript{177}

Eventually, the European Community attempted without too much success to smooth ruffled American feathers by rejecting the Austrian initiative but adopted "a uniform statement setting targets and timetables for reduction of carbon-dioxide emissions to 1990 levels by the end of the century."\textsuperscript{178}

There is every likelihood that with the new Clinton Presidency, European nations will renew their efforts to strengthen the Treaty, possibly by persuading the United States to agree to a protocol which would include specific timetables. The environmental interests of Vice-President Al Gore are likely to propel new initiatives to change American policy with respect to its Rio stance. Time alone will tell whether the new U.S. President will provide any innovative, positive approaches and solutions for the environment/economy dichotomy.

The North-South Conflict and the Climate Change Convention

It is virtually impossible to analyze any international convention today without considering the North-South confrontation and examining how the particular treaty fits into that context. The relationship between developed and developing nations has become the most important global issue since the end of the Cold War. The North-South conflict affects every issue of global significance and has come in the 1990s to dominate international politics. The basic aspects of this confrontation can only be examined briefly before we proceed to fit the Climate Change convention into this situation.

The volatile relationship between the nations which are developed and relatively prosperous (collectively labelled the North) and those that are developing and relatively poor (collectively labelled the South) has been ongoing for decades. This conflict is just one more unfortunate consequence of the colonial past which left a legacy of economic inequity because the rich resources of the colonies were utilized to develop the economies of the colonial power, often to the detriment of the populations of the former. Independent, diverse, mainly agrarian societies in Africa and Asia were quite sud-

\textsuperscript{176} Id.
\textsuperscript{177} Id.
denly made part of the complex global market system which assigned them the role of hewers of wood and drawers of water. As providers of raw materials, Afro-Asia, the Middle East and Latin America produced the primary commodities which enabled Europe and the North America to industrialize and develop a standard of living which gave the majority of their citizens a level of personal comfort unheard of in any era in history. Conversely, this high standard of living was created at the expense of those who provided not only the raw materials to keep the factories running but also acted as vast markets to absorb the continuing flow of industrial products. The beneficiaries were in political control of those who provided the benefits and so the system worked until the sheer economic injustice of the situation along with political, nationalist awakening in ancient societies like India generated massive revolts against foreign rule. Eventually, the nationalistic fervor, grounded in economic discontent and the low standard of living of the majority, brought political independence to most of the former colonies. The rapid process of decolonization following the end of the Second World War changed the political map of the world. Unfortunately, economically, it was largely business as usual.

The former colonial powers were willing to give huge donations in foreign aid to their former colonies but the world market system was not prepared to adjust to accommodate a new set of industrialized nations. The newly-independent countries found that they were still expected to remain exporters of primary products and they had little or no hope of breaking into Western markets which were protected to ensure the stability of domestic industries. Although some countries in Southeast Asia have made inroads into the West with manufactured goods, the majority of developing nations still find that it is their raw materials which sell in the North, not their manufactured goods. Data collected by the International Monetary Fund shows that "between 1982 and 1989, the terms of trade of the developing countries as a whole fell by 20 percent. During the same period, the terms of trade of the industrialized countries improved by 16 percent."179 Although world trade since 1955 has grown by approximately six hundred percent, the South has enjoyed an increase of only twelve percent.180 Indeed, "in comparative terms, the developing countries' share of world trade dropped from about one-third of the total to one-quarter of the total."181 The result has been a realization on the part of many governments in the South that unless there is a drastic shift in the way the economic pie is sliced, their vast

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179 Head, supra note 7, at 46 (citing International Monetary Fund, World Economic Outlook (1990)).
180 Id. at 44-45.
181 Id. at 45.
populations are destined for generations of poverty. Political independence has not brought the economic miracles of development promised by the nationalistic revolutionaries who formed the first post-colonial governments. Some countries like India and China have created diverse economies but have yet to meet the needs of their enormous populations for the bare necessities, adequate food, shelter, clothing and a basic education.

It is important that the policy-makers and particularly the environmentalists in the West realize the amount of frustration and despair which motivates the often harsh rhetoric flowing from the South. For nations which have few cards to play in the international game, these countries are determined to use every tactic and exercise every option they have to reverse the poverty which has been their lot for decades. Regrettably, one casualty of the North-South economic conflict has been the cause of global environmentalism. Having developed to a point which gives a majority of their citizens a comfortable standard of living, most industrialized societies are now expressing concern about the price the planet has paid for this development. The air over most countries is now befouled, the oceans are polluted, the lakes and ponds are dying, the atmosphere is warming to levels which may be dangerous in the coming century and the quality of environmental life is threatened globally. Hardly anyone disputes the responsibility of the industrialized North for the creation and continuation of the environmental crises which plague this planet today. However, accepting responsibility and doing something about it are two different matters. We have already seen how the position of the United States of America in the climate change negotiations precluded the formulation of a strong treaty. When developed nations urge the developing world to exercise environmental caution when industrializing and not emulate the West in its rapid, untrammelled rush to develop, the South inevitably sees this as yet one more attempt by the North to keep its people in perpetual poverty. Basically, the South is now telling the North that if the latter wants to indulge in this environmental concern and expects the South to follow suit, then the North (which created most of the environmental problems) must be willing to pay for the South’s participation in this clean-up activity.

A new bargain is being forged now because the North is in a very real sense at the mercy of the South for the first time in history. If the South proceeds to destroy its forests and industrialize with the same frantic pace as did the North, the fragile ecosystems of the planet will probably not be able to sustain the consequences. Hence, the South has found a card—environmentalism—and is playing it to demand less economic inequity and a fairer share of the economic wealth of this planet. Whether a new economic order is likely to
emerge from the mutual vulnerability and interdependence of these two great blocs of nations remains to be seen. Till then, every United Nations resolution of global scope and every international treaty is formulated with this confrontation in mind. The analysis of every treaty has then to consider whether the North gained or the South or whether the agreement reflects a balance between these two economic groups.

The North-South issue became fundamental throughout the process leading up to the signing of the Climate Change Convention at Rio. Sun Lin, Head of the Chinese delegation to the Intergovernmental Negotiating Process voiced the realization of most participating nations: "Owing especially to the enormous disparities between developed and developing countries in levels of economic development, and also due to the great difference amongst various countries in geographical environment and natural endowment, the negotiations on this Framework Convention will be all the more difficult."182

The chief delegate from India was more blunt in expressing the Southern position once substantive negotiations began and his statement is indicative of both the extent of North-South tension prevalent in the entire process and of the refusal of Southern nations to bear the burden of environmental measures. As he explained to delegates, "If per capita emissions of all countries had been on the same levels as that of the developing countries, the world would not today have faced the threat of global warming. It follows therefore, that developed countries with high per capita emission levels of greenhouses gases are responsible for incremental global warming."183

Although as already explained, this article cannot because of length constraints explore the entire negotiating process, it is important to gain some insight into the viewpoints which sparked the polarized positions plaguing all the formulations associated with the Rio Summit. The Indian delegate insisted that the "principle of equity should be the touchstone for judging any proposal. Those responsible for environmental degradation should also be responsible for taking corrective measures."184 Clara Germani of The Christian Science Monitor explained the developing nations’ position: "Third-world diplomats don’t want to be held to emissions standards that even industrialized nations won’t meet. Moreover, those standards could limit needed economic growth in developing countries unless they

183 Statement by Leader of the Indian delegation to the substantive negotiations session of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change, June 1991.
184 Id.
receive financial assistance to help develop alternative energies. The [United States] $75 million was not enough for many third-world participants. The amount of American aid pledged scarcely matches the $75 billion increase that the World Bank estimates that developing countries will require annually to fund environmental projects by the end of the 1990s. It is interesting to note that John Major, Prime Minister of the United Kingdom pledged "an extra £100 million as Britain's contribution to Third World programmes on climate change funded by the Global Environment Facility."

With respect to this aspect of the North-South debate, the Convention reflects acknowledgment of the Southern position:

Noting that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries (Introduction)

and further,

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. (Introduction)

Although the North was willing to acknowledge responsibility for having created most of the global warming problem, the agenda of the South required more concessions from the developed world and the Convention reflected the primacy of that agenda.

The South and the Climate Change Convention

The disunity among developed nations during the Rio process and in the discussions leading to the creation of the Climate Change and Biodiversity Conventions would have a significant impact on the final product which emerged from these involved and complex, often tortuous negotiations. With the benefit of hindsight one could suggest that a more progressive stance by the United States of America might have made for a stronger treaty with firm commitments for both developed and developing nations to implement. As it is, the North was fragmented, disunited and unable, because of the American position, to exert any serious pressure on the South to undertake the type of economic sacrifice for environmentalism which alone will ease the rate of global warming. This is important because measures to alleviate global warming have to be taken internationally if the planet is to succeed in curbing this problem.

If reduction occurs only in the developed world, and if the South

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185 Germani, supra note 158, at 9.
proceeds at its current pace of industrialization and forest depletion, Southern emissions would outpace the positive achievements of the North and the planet would be in worse shape. To give only one example, China, which is rapidly becoming one of the world’s most determined polluters, has been termed the “world’s fourth biggest contributor to global warming,” following the United States, the former Soviet Union and Brazil.\textsuperscript{188} Benxi, a Chinese city near the border with Korea, spews out over eighty-seven million cubic meters of gases each year from its two hundred or more factories.\textsuperscript{189} This is happening despite the fact that “[s]ince 1978, the city’s particle discharge has been cut in half by the installation of equipment designed to suck pollutants . . . from factory smoke.”\textsuperscript{190} Deng Nan, China’s Deputy Minister of Science, Technology and the Environment and also, incidentally, daughter of Chinese leader Deng Xiaoping, admitted that “[t]he country’s overall ecological and environmental situation continues to deteriorate.”\textsuperscript{191} China already emits approximately nine percent of the world’s CO$_2$,\textsuperscript{192} with its per capita carbon dioxide emissions averaging between one and five tons in 1989.\textsuperscript{193} At UNCED, Chinese Premier Li Peng informed delegates that “[i]n the past decade or more . . . China’s GNP has more than doubled. Yet the quality of China’s environment has remained basically stable, or even improved in some areas. Our environment and development strategy suited to China’s conditions has proved to be successful.”\textsuperscript{194} The rest of the world is no longer as sanguine as the Chinese Government appears to be about its environmental situation. “As China is increasingly identified as one of the main contributors to ozone depletion and global warming, its environmental problems are becoming the world’s problems and are being intensely scrutinized at home and abroad.”\textsuperscript{195} As the Chinese example demonstrates, the world cannot afford the luxury of African, Asian and Latin American development at its present pace without paying a very heavy environmental price in the not-too-distant future.

On the other hand, it does not appear fair to the nations of the South to restrict their development and consign their enormous populations to ever-increasing poverty. In a very real sense, developing nations have no option but to raise the standard of their citizens as rapidly as possible. Without development and a basic

\textsuperscript{188} Sandra Burton, \textit{The East is Black}, \textit{TIME} (Canada), April 29, 1991, at 44.
\textsuperscript{189} Easterbrook, \textit{supra} note 6, at 31.
\textsuperscript{190} Burton, \textit{supra} note 188, at 45-46.
\textsuperscript{191} Catherine Sampson, \textit{Onus for Cleanup is Put on West}, \textit{THE TIMES} (London), June 3, 1992, at 12.
\textsuperscript{194} Statement by Li Peng, Premier of China, UNCED, June 12, 1992.
\textsuperscript{195} Burton, \textit{supra} note 188, at 47.
minimum standard of living, these nations face the prospect of economic turmoil and possibly even political revolution. The dilemma of China is more severe than that of most other developing nations. Functioning as a communist society with a political and administrative system now considered outmoded and outdated in most of the world, the Chinese Government’s only hope of clinging to totalitarian power is to give its population as much economic development as possible regardless of the environmental cost involved. The solution, as China sees it, is to make the developed world pay for the clean-up. “Beijing estimates the cleanup will cost developing countries more than $600 billion. It has called on developed countries to pay more than $125 billion of that.”  

It could be argued, with some justifiable cynicism that the South’s Agenda in the pre-UNCED process boiled down to acquiring as much money as possible from the North for environmental projects. It could also be argued that the Convention on Climate Change reflected and catered to the South’s needs more than to the over-all cause of reducing greenhouse gas emissions globally. The Convention is replete with obligations to the developing world by the rich countries with special provisions to consider the specific needs of the least developed (Article 4.9, for instance). The Introduction included the idea of common but differentiated responsibilities as between developed and developing nations thereby setting the tone for the imposition of different obligations. In a sense, given the fact that the developed countries have created most of the global warming problem, this would appear to be quite fair.

The Convention also addresses the financial apprehensions of poorer nations by recognizing 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. (Introduction)

The Convention also affirms that

- the 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. (Introduction)

The requirements of developing countries are given clear recognition and are expressed:

- all countries, especially developing countries, need access to resources required to achieve sustainable social and economic development and... 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

196 Wong, supra note 193, at A3.
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. (Introduction)

The Convention has a section on Principles (Article 3) which also includes mention of the specific concerns of developing countries which must guide the Parties in implementing the Convention:

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. (Article 3.2)

The UNCED Conference was an attempt to merge the two main considerations of environment and development to make the latter possible but with safeguards which would protect the environment for generations to come. UNCED also demonstrated the growing global awareness that unchecked development is destroying the planet and that this trend simply cannot continue if human beings and the millions of other species which share this planet with us are to survive and thrive in the next century. However, a main focus of the South's agenda in the pre-UNCED process and in the different international fora for negotiating such conventions has been to emphasize the primacy of development—a primacy based on the fact that the poor nations have no alternatives left. Ecologically-safe development was promoted as the favored choice but if the poor could not afford that, then any development was preferable to no development. Hence, one could expect, in the Climate Change Treaty to see a reflection of that viewpoint and it came with an acknowledgement that

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. (Article 3.4)

One way of encouraging sustainable development in the South was by taking steps to reverse the serious economic inequities which consign the majority of the world's population to a life of grinding poverty. Twenty-three percent of the world's people enjoy eighty-five percent of its income and this level of economic injustice means that over one billion people have to "survive on less than $1 a day."

The reaction in the Climate Change Convention was to urge Parties to address the root cause of the economic injustice which prevails:

The Parties should cooperate to promote a supportive and open international

197 Sandra Postel, Denial in the Decisive Decade, STATE OF THE WORLD (1992), at 4 (citing U.N. DEVELOPMENT PROGRAMME, HUMAN DEVELOPMENT REPORT (1991) and WORLD BANK, WORLD DEVELOPMENT REPORT (1991)).
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 3.5)

Michel Camdessus, Managing Director of the International Monetary Fund (IMF) informed delegates at UNCED that the IMF supports more open trading and explained that this policy “is consistent with promotion of a better environment. More open trade regimes can be associated with lower levels of pollution intensity of production, because they encourage investment in more modern and less polluting technology. Moreover, trade liberalization,” he said, “is generally associated with increased efficiency, and with higher growth and incomes and can facilitate a shift to production technologies that use less inputs and so conserve natural resources.”

Realization that performance of the obligations of the Convention could be a severe financial burden for the poor nations prompted recognition by developed countries of their responsibility to assist developing nations to create national inventories of greenhouse gas emissions and to formulate plans for dealing with the problem (Articles 4.3 and 12.1). Emphasizing the importance of adequacy and predictability in the flow of funds, the Convention also provides developed country funding for technology transfers to help developing countries implement their obligations under the Convention (Article 4.3). Further commitments call for the transfer of, or access to, environmentally sound technologies and know-how particularly to developing country Parties (Article 4.5).

It is significant that the participation of developing countries in this Convention is made conditional 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 (Article 4.7). This provision does almost as much damage to the hopes for rapid implementation of the Convention as does the American rejection of time-tables for reduction of emission. In a blunt speech at UNCED, Dato' Abdullah Haji Ahmad Badawi, Foreign Minister of Malaysia explained: “Already overburdened by severe economic and social pressures, the South should not be made to bear the brunt of further sacrifices . . . . After all the North . . . is . . . responsible for the bulk of greenhouse gas emissions . . . . The North must therefore help the South to accelerate its development by providing the necessary flow of resources and technology. Without such action, the devel-

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198 Statement by Michel Camdessus, Managing Director, International Monetary Fund, UNCED, Rio, June 8, 1992.
oped countries do not have the moral authority to tell the rest of the world to save resources and to stop pollution."

The retreat on both fronts, to the Americans on deadlines and to the South on this issue of conditionality, considerably weakened the Convention and made it almost imperative that a Protocol will have to be formulated to strengthen the commitments of all parties.

Developing countries are to be protected and assisted not just from the adverse effects of climate change but also from the impact of implementation of response measures (Article 4.8). The Article on Research and Systematic Observation takes into account the particular concerns and needs of developing countries and encourages cooperation to improve their endogenous capacities and capabilities (Article 5(c)). The North has also committed to training experts in particular for developing countries (Article 6(b)(iii)).

On the administrative front, the Secretariat of the Convention is specifically directed to facilitate assistance to developing country Parties among its numerous duties (Article 8.2(c)). The subsidiary body for Scientific and Technological Advice established by the Convention is directed to provide advice on ways and means of supporting endogenous capacity-building in developing countries among its many tasks (Article 9.2(d)). Developing countries will also be assisted with technical and financial support in the task of compilation and communication of information according to the terms of the Convention and to enable them to identify their technical and financial requirements in this regard (Article 12.7). In conceding the necessity for a transparent system of governance in the financial mechanism of the Convention, the North appears to have listened to the insistence of the South that the mechanism have an equitable and balanced representation of all Parties (Article 11.2). The call to restructure the Global Environment Facility to make its membership universal (Article 21.3) also responds to a Southern perception of unfairness in financial mechanisms of this type. The Convention specifies that developing countries may avail themselves of financial resources related to the implementation of the Convention through bilateral, regional and other multilateral channels (Article 11.5). There is also provision for developing nations to 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 (Article 12.4).

It is apparent from the provisions of this Convention that the North has gone far to meet the demands of the South for a more equitable world economic order. The phraseology adopted in the

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Convention strongly endorses the concerns of the South. Hopefully it will also help to ease the fears developing nations had that any such treaty, with unfair provisions could "seriously retard their oil consumption, electricity production, irrigated rice farming and livestock programmes," and that a climate convention would "set limits on almost every sphere of economic activity." However, it remains to be seen whether the performance of the North will match the promises it has made to developing nations. It is clear that the text is the product of a delicate compromise and that the entire treaty would probably have benefited if the Americans had lent their massive weight to a stronger Convention. However, this Convention is only a first step in a long process which will, hopefully, alleviate the consequences of global warming. To have created a document which brings such diverse nations with so many different interests into the framework plan is in itself a major achievement. If the next few years produce one or more Protocols to strengthen the obligations, then the Framework Convention on Climate Change will probably be perceived as a significant beginning.

The Obligations of All Signatory Nations

One positive aspect of this rather weak Convention is that it promotes a great deal of activity, internationally, regionally and nationally to fulfill its requirements. This very fact makes it obvious that the Climate Change Convention cannot be overlooked or shelved because states are required to undertake certain activities within specified time frames and developed countries, in particular, have a heavy bureaucratic burden imposed on them. States are urged to enact effective environmental legislation (Introduction) a step which is doubtless of primary importance to the whole concept of global improvement of the environment. Parties are also asked to promote sustainable development (Principle 4).

More precisely, signatory nations have to undertake the following specific tasks:
1. Develop, periodically update, publish and make available to the Conference of parties... national inventories of anthropogenic emissions (Article 4.1(a))
2. Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change... and to facilitate adequate adaptation to climate change (Article 4.1(b))
3. Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions... in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors (Article 4.1(c))
4. Promote sustainable management, and... the conservation and enhancement of sinks... including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems (Article 4.1(d))

5. Develop and elaborate appropriate... plans for coastal zone management, water resources and agriculture (Article 4.1(e))

6. Employ... 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 (Article 4.1(f))

7. Promote and cooperate in scientific, technological, technical and other research, systematic observation and development of date archives related to the climate system (Article 4.1(g))

8. 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 (Article 4.1(h))

9. Promote and cooperate in education, training and public awareness related to climate change and encourage the widest participation in this process. (Article 4.1(i))

Additionally all Parties to the Convention have to report to the Conference of the Parties regarding the creation of national inventories of anthropogenic emissions (Article 12.1(a)) and steps taken to implement the Convention (Article 12.1(b)).

The Parties are also required to

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; (Article 5(a))

and to

Support international and intergovernmental efforts to strengthen systematic observation and national scientific and technical research capacities and capabilities... and to promote access to, and the exchange of data and analyses... obtained from areas beyond national jurisdiction. (Article 5(b))

As part of the process of popularizing the cause of reducing emissions, Parties agree, within their respective capacities, to promote and facilitate at the national and regional level

(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. (Article 6(a))

Internationally, similar efforts are aimed at

(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 6(b))
The Convention imposes obligations which are quite weighty on all its signatories. However, certain nations, particularly developed countries have to carry a proportionately heavier burden of the tasks involved in performance of its clauses. Essentially, the obligations imposed are commensurate with the capacity of Parties. In this sense, the Convention strikes a fair balance between Parties and recognizes the economic differences between rich and poor nations. However, the President of the Commission of European Communities thought that the obligations should have been more specific. In his speech at UNCED, Jacques Delors stated that "the European Community would have preferred the Convention on climate change to establish more precise commitments and objectives, especially for the industrialized countries."201

It is likely that the duties examined in the previous section may become quite onerous for some of the least developed countries. Time alone will tell how effectively the developing nations will be able to implement their responsibilities and whether they will perform or renege on their commitments. Because of an awareness of the likely economic problems associated with performance of their duties, they have made their participation conditional on funding in a clause which caters heavily to the viewpoint of the South:

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. (Article 4.7)

Although this provision puts the ball firmly in the developed country court in terms of making it possible for the poor nations to perform their obligations under the Convention, in principle, such a clause does a disservice to the cause of international environmentalism. It is vague, nebulous and provides an escape route for any developing nation which may seek to shirk its environmental responsibilities in favor of development of its economy. Had the North not been as fragmented as it was during the negotiating process, a more firm set of commitments for the South might have been possible. Howard Mann, Legal Counsel for Environment Canada, believes that the position of South "becomes a cause for particular concern from an environmental perspective, when one realizes the extent to which energy related harmful emissions, if they are wholly unaddressed, have the capacity to grow in many developing countries in order to meet the very development objectives that are being

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placed as a precondition to taking environmental measures."

The Convention divides the non-developing nations of the world on the basis of two annexes attached to the end of the Treaty. Annex II consists of the developed nations, mainly in Europe and North America. Annex I includes both the developed nations and the former Communist states of Eastern Europe, now termed economies in transition. Nations listed in the annexes are expected to fulfill all the obligations already discussed and take on a few more. Acknowledging the important concept of common but differentiated responsibilities (Introduction) and that environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply (Introduction), the Convention expresses recognition of the need for developed countries to take immediate action in a flexible manner on the basis of clear priorities, as first steps 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. (Introduction)

Developed countries are expected to take the lead in combating climate change and the adverse effects thereof (Article 3.1). To demonstrate that they are leading in the fight against global warming, the Parties listed in Annex I agree to adopt national policies and take corresponding measures on the mitigation of climate change, by limiting ... anthropogenic emissions of greenhouse gases and protecting and enhancing ... greenhouse gas sinks and reservoirs. (Article 4.2(a))

The obligations are unfortunately so vague as to be almost without substance. The Convention goes on to infer that the return by the end of the present decade to earlier levels of anthropogenic emissions of carbon dioxide and other greenhouse gases (Article 4.22 (a)) would be consistent with the objectives of the Convention. In the same article, the Convention proposes the aim of returning individually or jointly to ... 1990 levels [of] anthropogenic emissions of carbon dioxide and other greenhouse gases (Article 4.2(b)). On these two provisions, Reuters News Agency commented: “Dubbed ‘constructive ambiguities’ by negotiating committee Chairman Jean Ripert of France, the two paragraphs

203 Annex I: Australia, Austria, Belarus, Belgium, Bulgaria, Canada, Czechoslovakia, Denmark, European Community, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America.
Annex II: Australia, Austria, Belgium, Canada, Denmark, European Community, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom of Great Britain and Northern Ireland, United States of America.
204 Id.
were necessary to get the United States to agree."\textsuperscript{205} As The Times of London explained, the provisions are "couched in convoluted language . . . a guideline, rather than a legal commitment."\textsuperscript{206}

These constructively ambiguous obligations require nations specified in Annex I to report within six months of the entry into force of the Convention and periodically thereafter to the Conference of the Parties on their performance of these duties (Article 4.2(b)). There is a requirement on Annex I nations for detailed descriptions of policies and measures adopted to implement the greenhouse gas reduction measures and for a specific estimate of the impact of such measures (Article 12.2(a) and (b)). The nations listed in Annex I have also to

\begin{quote}
coordinate as appropriate with other such Parties, relevant economic and administrative instruments developed to achieve the objective of the Convention (Article 4.2(e)(i))
\end{quote}

and

\begin{quote}
identify and periodically review . . . policies and practices which encourage activities that lead to greater levels of anthropogenic emissions of greenhouse gases. (Article 4.2(e)(ii))
\end{quote}

Despite these provisions for review, there was serious disappointment because in the words of the Environment Minister of Kenya, "no specific targets were agreed upon."\textsuperscript{207} Dr. Kofi N. Awoonor, Ambassador of Ghana to the United Nations voiced the apprehensions of many delegates when he said, "without any stipulated targets for controlling emissions, we fear the Convention may not produce the desired effect of arresting the process of current global warming."\textsuperscript{208} The Italian Minister for Environment, Giorgio Ruffolo believed that the absence of precise targets and timetables impaired the Convention.\textsuperscript{209} The Prime Minister of Malaysia, Dr. Mahathir Mohamad was more blunt, stating that the U.S. position "rendered the agreement inequitable and meaningless."\textsuperscript{210}

The developed countries listed in Annex II undertake to assist developing countries financially to fulfill the obligations to prepare national inventories and environmental plans to implement the provisions of the Convention (Article 4.3). Additionally, developed countries will provide such financial resources, including . . . the transfer of technology, needed by the developing country Parties to meet the agreed full

\begin{footnotes}
\textsuperscript{205} Nations Agree to Pact on Global Warming, Globe & Mail, May 11, 1992, at A9.
\textsuperscript{206} Michael McCarthy, Bush Will Sign Pact on Global Warming, The Times (London), June 1, 1992, at 12.
\textsuperscript{207} Statement by Philip Leakey, Minister for Environment, Kenya, UNCED, Rio, June 12, 1992.
\textsuperscript{208} Statement by Dr. Kofi N. Awoonor, Ambassador of Ghana, UNCED, Rio, June 5, 1992.
\textsuperscript{209} Statement by Giorgio Ruffolo, Minister for Environment, Italy, UNCED, Rio, June 4, 1992.
\textsuperscript{210} Statement by Dr. Mahathir Mohamad, Prime Minister of Malaysia, UNCED, Rio, June 13, 1992.
\end{footnotes}
incremental costs of implementing the various obligations undertaken by all Parties as enumerated above (Article 4.3). Technology transfer to the developing world forms a significant aspect of the South’s hope for environmentally sustainable development and is accepted as a commitment placed on the developed nations.

In this process, the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties. (Article 4.5)

Because of the economic problems being faced by the former Soviet Union and its Eastern European neighbors as they convert from a communist to a free market economic system, the Convention on Climate Change allows them a certain degree of flexibility in performing their obligations with respect to reducing emissions, even with respect to the constructively ambiguous goals of returning to the 1990 levels specified for developed countries (Article 4.6). Victor I. Danilov-Danilian, Minister for Ecology and Natural Resources of the Russian Federation explained the problems facing his country: “The state of environment in Russia is alarming. Natural systems have already been seriously damaged by annual per capita emissions into the air of 130 kg. of pollutants, spoils, dumping places for wastes, covering dozens of thousands of square kilometres, polluted waters of rivers and lakes. Only sheer size of the territory of Russia still saves its nature from total collapse.”

Annex II countries are also required to provide detailed descriptions of measures taken to assist developing country efforts to deal with climate change (Article 12.3). Though the Convention lacks teeth in terms of time deadlines for implementation, it could promote and generate considerable activity on the scientific, academic and bureaucratic levels, activity which hopefully will increase public awareness about the problem of emissions, facilitate popular approval of active implementation of the Convention’s objectives and keep this subject at the forefront of environmental concerns.

National Sovereignty Considerations in the Convention

It has become almost a ritual now for international law instruments to pay formulary homage to the concept of nationalism by acknowledging the sovereignty of nations. This type of provision appears frequently in international declarations and conventions and has become part of the usually accepted baggage which governments bring with them to international negotiation processes. The Climate Change Convention was no exception:

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. (Introduction)

The Convention reiterates the importance of sovereign rights by:

* reaffirming the principle of sovereignty of States in international cooperation to address climate change. (Introduction)

In view of the fact that the Parties to the Convention are nation states, the reiteration of sovereign rights may appear to be somewhat redundant and unnecessary. After all, it is as nations that they will participate in the efforts to curb greenhouse emissions. It is national efforts which will implement or fail to implement the provisions of the Convention. Whether or not there are further measures—Protocols—to strengthen this Convention will again depend on the states which are Parties to this treaty.

The first provision above balances the concept of sovereign rights with the idea of national responsibility. The second appears to cater to the apprehensions of countries which have become independent since the end of the Second World War and which still view the former imperial powers—the North—with considerable suspicion in any international forum. However, as we have seen, it is not just the recently independent states which cling to the trappings of nationalism in the international arena. The United States of America under George Bush adopted a very nationalistic stance both at Rio and in the pre-UNCED process, including the meetings which produced the Climate Change and Biodiversity Conventions.

The problem of nationalism from an environmental perspective is that it is the single greatest obstacle to rapid, effective change. Environmental problems are frequently global problems. Their solution demands a wider, universalist outlook which transcends the narrow framework of exclusivity which national considerations impose on government leaders. As world leaders come to the environmental conferences clutching their sovereign rights like security blankets, they fight to ensure that the end product of the global discussion is most pleasing to or, at least, least unpleasing to their national interest. This is all very well but when over one hundred and fifty countries are playing this type of game, the consequences can only be vacuous, nebulous and vague pronouncements which are so devoid of real meaning as to become the despair of environmentalists everywhere. This was to some extent the ultimate fate of the Climate Change Convention. This is why many of its provisions tend to be general rather than specific, loose rather than precise and indeterminate rather than definite. John Major, Prime Minister of the United Kingdom, tried to take a positive approach to the Convention when he said,

what we are seeing here is something quite unique: over 100 na-
tions, 100 Heads of Government, 170-odd nations actually here seeking to reach agreement. That was never going to be easy but what it actually has demonstrated is two things: firstly the importance of the occasion; and secondly the fact that so many nations are prepared to come together, often swallowing their own domestic national interests, to try and reach an agreement on matters of importance to the environment.\textsuperscript{212}

Unfortunately, the problems of the environment are not merely global but long-term. The careers of most politicians are not lengthy enough to make the sustained commitments of money and effort required. Hence, while environmental problems are widespread and often, as with greenhouse gases, all-encompassing, the solutions can only be applied in a patchy and piecemeal fashion. One can only hope that the trend of this decade will be increasingly in the direction of regional and international endeavors with less emphasis on the primacy of country by country performance, although that too is significant.

The Impact of Global Warming on Low-Lying Areas

One ironic and tragic aspect of this environmental crisis of greenhouse emissions concerns the fact that those parts of the world least responsible for creating the global warming problem will be the first to suffer its horrifying consequences. As global warming is scientifically associated with the rise in ocean levels, all areas which do not have sufficient elevation to withstand this phenomenon are likely to be endangered by it. There are indications that the problem is already being faced by a number of states. One of the positive public relations achievements of the UNCED process was to alert international attention to the plight of the inhabitants of low-lying island and coastal areas in various parts of the world who are already facing the impact of global warming and will undoubtedly be the first victims of disaster when oceans rise and sweep over their lands. For such people, remedial measures are both compelling and urgent. Unfortunately, most of these areas form part of the developing world, many of them are barely developed and hence they can command only a limited portion of the world’s environmental attention. Their situation now is basically that of a disaster just waiting to happen. When it does, on a large enough scale, the world may sit up and pay attention to the fact that global warming is not just a matter which concerns international lawyers, scientists and politicians. All the greenhouse gases we emit into the atmosphere will ultimately first destroy the most vulnerable and those least able to defend themselves physically (because they are poor) and in the realm of

\textsuperscript{212} Prime Minister John Major, Remarks to Paul Reynolds (BBC Radio) en route to Rio (June 11, 1992).
international politics (because they lack the clout to pressure the world’s polluting nations to rectify the situation urgently).

The likely scenario for island nations was graphically described at UNCED by Resio S. Moses, Secretary of the Department of External Affairs for the Government of Micronesia:

Virtually all oceanic islands and low-lying coastal areas stand to suffer first consequences of human-induced climate change. Total inundation caused by sea-level rise is, of course, the ultimately terminal event for islands, but long before that, living conditions on the islands will have become unbearable due to increased storm activity, destruction of reefs, land and beach erosion and disappearance of fresh water and foodstocks. Options for mitigating or adapting to these effects are quite limited for the low-lying islands and atolls. The ultimate defensive measure, namely relocation of the population, may save lives at the time, but at a tragic cost. History shows that relocation means the end of the cultures involved.\(^\text{213}\)

Moses called for “drastic reductions in current levels of carbon dioxide emissions by the developed countries.”\(^\text{214}\)

Emission reduction and provision for additional resources by industrialized countries were the demands of the Governor General of Papua New Guinea who explained that his nation, consisting of over six hundred islands, has vast areas of wetlands which would be severely affected by sea-level rise and cyclones.\(^\text{215}\)

Teatao Teannaki, President of the Republic of Kiribati informed delegates at the Earth Summit that his country “consists of 33 low and flat coral atolls, surrounded by a vast area of ocean. The ocean is encroaching on land, as land retreats.” He continued, “This is our share of the cost of industrialization and economic development. It is clearly unproportional to our negligible share, if any, in causing global environmental problems . . .” and then asked: “Should we continue to bear this cost until we are wiped out?”\(^\text{216}\) Kinza Clodumar, Minister of Finance for the Republic of Nauru in the Central Pacific eloquently outlined the impact of environmental catastrophe when he spoke to UNCED: “We are . . . small, vulnerable island states, entrenched on the front lines of the ecological crisis. In the event of global ecological collapse, we will be the first to go, but we will not be the last . . . . It is said that no man is an island unto himself, but given our shared ecological fate, we propose that all


\(^{214}\) Id.


countries would do well to consider themselves as an island."\(^{217}\)

The President of the Republic of the Marshall Islands, Amata Kabua was equally apprehensive about the fate of his island nation which has an average elevation of only two meters above sea level. As he explained, "any significant sea level rise will be catastrophic to the Marshall Islands, the homeland of the Marshallese people for thousands of years."\(^{218}\) Tom Kijiner, Minister for Foreign Affairs of the Marshall Islands dramatically reminded delegates that the world "faced an intricate ecological time bomb," and warned that "sea level rise could annihilate the Marshall Islands as effectively as a nuclear bomb."\(^{219}\) The urgency of the situation was emphasized by Tofilau Eti Alesana, Prime Minister of Western Samoa who informed delegates about the severity of recent tropical cyclones and cautioned that "[f]or us, it is not just a question of reaching or maintaining sustainable levels of development. It is not just a question of hunger and poverty. For us, it is a question of pure survival."\(^{220}\) This sentiment was echoed by delegates from a variety of nations like Sri Lanka, Jamaica, Cyprus and Bangladesh whose Foreign Minister reminded UNCED that global warming and sea level rise "would lead to a reduction of an already minimal land-person ratio and an increased pressure on natural resources."\(^{221}\)

The delegate from Vanuatu did not hesitate to lay blame for the situation facing Pacific island countries. He pointed out that "Vanuatu has been compelled to assume a significant portion of the hidden costs of the conspicuous consumption of people in other regions whose standard of living—although not necessarily their quality of life—is considerably higher than that of our own people."\(^{222}\)

The vulnerability of these nations was not ignored by the United Nations, largely because of the action taken by these states to influence international opinion. In November 1989 the small states held a conference in the Maldives on the issue of sea level rise and produced the Malé Declaration on Global Warming and Sea Level


\(^{220}\) Statement by Tofilau Eti Alesana, Prime Minister of Western Samoa, UNCED, Rio, June 13, 1992.

\(^{221}\) Statement by Mostafizur Rahman, Foreign Minister of Bangladesh, UNCED, Rio, June 10, 1992. See also statements by P.J. Patterson, Prime Minister of Jamaica, UNCED, Rio, June 10, 1992; Vincent Perera, Minister of Environment, Sri Lanka, UNCED, Rio, June 10, 1992; Andreas Gavrielides, Minister of Agriculture, Cyprus, UNCED, Rio, June 10, 1992.

This Declaration highlighted the specific predicament of low-lying coastal and island states; called for an international response from the industrialized countries which have a "moral obligation" to initiate remedial action; and proposed negotiations for a framework convention on climate change. The United Nations General Assembly recognized the significance of the issue, endorsed it in a resolution of December 1989, and recommended that this matter be considered during discussions for the formulation of the climate change convention. Research and monitoring of the impact of global warming and sea level rise on coastal zones was proposed by the Second World Climate Conference which met in Geneva, Switzerland between 29th October and 7th November 1990. In its Ministerial Declaration, the Conference proposed a number of measures to deal with this problem. "Such response strategies include phasing out the production and use of CFCs, efficiency improvements and conservation in energy supply and use, appropriate measures in the transport sector, sustainable forest management, afforestation schemes, developing contingency plans for dealing with climate related emergencies, proper land use planning, adequate coastal zone management, review of intensive agricultural practices and the use of safe and cleaner energy sources."

The Governing Council of the United Nations Environment Programme also considered this issue during its sixteenth session and highlighted its concerns by acknowledging that "the First Assessment Report of the Intergovernmental Panel on Climate Change, adopted in August 1990," had predicted that sea level rises "between three to ten centimetres a decade under the business-as-usual emissions scenario" could be expected and "that, even if, greenhouse gas emissions were reduced, there would still be a continuing need to address sea-level rise." UNEP urged governments to address the issue of "vulnerability to sea-level rise."

The Climate Change Convention responds to this flurry of international activity by including the United Nations General Assembly Resolution of 1989 on sea level rise as a point of reference (Introduction). The Convention goes on to recognize the vulnerability to climate change of various areas including low-lying and other small is-

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224 Id.
226 Id.
228 Id. at 228.
230 Id.
land countries (Introduction) and reiterates the needs of those areas that are particularly vulnerable to the adverse effects of climate change (Article 3.2). The commitments entered into by Parties include the development of plans for coastal zone management (Article 4.1(e)) and Annex II states are asked to 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 (Article 4.4). Further provisions call for funding, insurance and technology transfer with specific reference to vulnerable areas including small island countries and low-lying coastal areas (Article 4.8 (a) and (b)). As many of these island states are barely developed, 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 (Article 4.9).

Although the obligations to assist these vulnerable areas are quite vague, the issue of their particular predicament has now been stated and reiterated in an international convention and can hopefully never again be shelved or passed over in any subsequent protocols which are formulated. Although global warming will have an impact on all the countries of this planet, its adverse effects will unfortunately be first felt by those least equipped to cope with them. The issue of the plight of these small, poor and low-lying island and coastal nations simply cannot be ignored nor can their ancient cultures and civilizations be allowed to be swept away some day by oceans which have risen because we in the developed world want to continue to enjoy our comfortable but environmentally destructive lifestyle.

Consideration of Other Vulnerable Areas

It is important to emphasize that there are a number of areas in the world which are vulnerable to environmental degradation. It is impossible in this article to consider them all, however, the United Nations and the international community have been involved in producing the usual plethora of verbal and written pronouncements on these problems. The consideration of low-lying island and coastal states was only one example of the type of concern which has been generated world-wide. Suffice here to say that while acknowledging the plight of the insular states, the Convention on Climate Change also paid some attention to the catastrophe of desertification, particularly in Africa (Introduction, Article 4.1(e) and Article 4.8(e)). Mountainous eco-systems were also considered (Introduction and Article 4.8(g)) along with marine ecosystems (Introduction), areas prone to floods and drought (Introduction, Article 4.1(e) and Article 4.8(e)) and forested areas (Article 4.8(c)). Although all of the problems of so many regions cannot yet be blamed on the factor of global warming, in a consensus-driven document, such as this one, a
CLIMATE CONVENTION

number of items were probably included as a form of international acknowledgment of concern, particularly as the science on climate change may well verify its linkage with all these various environmental problems which have already begun to affect the lifestyle of millions of people on this planet.

The Efforts of the Oil-Producing Countries

It has been suggested, with some justification, that the "chances that the climate treaty will significantly change the world's output of fossil fuels over the next century is extremely slender." At the present time, approximately ninety percent of the world's commercial energy is derived from fossil fuels. John Wakeham, Energy Secretary for the United Kingdom has deemed the global reliance on fossil fuels for eighty percent of its energy requirements "the most fundamental problem facing civilisation."

The oil producing nations, many of them wealthy if not yet highly industrialized, mounted an effective and vociferous campaign against resort to alternative energy sources and indeed even against the concept of energy efficiency. Because of the linkage between the burning of fossil fuels, greenhouse gas emissions and global warming and because a large part of the developed world relies heavily on oil as an energy source, the emphasis on curbing emissions had to consider this connection and deal with it by formulating some firm principles for implementation. Helga Steeg, Executive Director of the International Energy Agency suggested that the removal of subsidies on fossil fuels worldwide "would achieve dramatic reductions in CO₂ emissions." The issue is primary and was of crucial importance for UNCED documents such as Agenda 21 and for the Climate Change Convention.

The battle to defend fossil fuels was fought on all fronts. The Arab oil producing countries saw a serious threat to their one great resource and "[d]uring the preparatory negotiations for the Earth Summit, Arab countries, acting on behalf of the Organization of Petroleum Exporting Countries, protested against what they regarded as . . . overemphasis on energy efficiency and fossil-fuel reduction."

Rashid Abdullah Al-Noaimi, Minister of Foreign Affairs of the United Arab Emirates emphasized that "the results of a good deal of

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scientific research confirm that oil and natural gas contribute less to carbon emissions and the resultant air pollution than other sources of energy such as coal," and cautioned against "focusing on a single source." The determined campaign was headed by the Saudi Arabian delegation which sought removal of references "to policies promoting energy efficiency and to the need for research into alternatives to fossil fuels. While fossil fuels are the major source of gases that cause global warming, their sale is the main source of income for oil producing countries, such as Saudi Arabia." The Saudis also proposed that if fuel consumption was curbed, they would have to be compensated by the developed countries for lost sales.

The case for oil producers was made eloquently and somewhat less confrontationally by Dr. Subroto, Secretary-General of the Organization of the Petroleum Exporting Countries (OPEC). He explained the position of OPEC to delegates at UNCED:

We in OPEC, although producers and exporters of a fossil fuel which has been the target of certain interests because of carbon dioxide emissions, share the general concern over the apparent deterioration of the air we breathe and the water we drink, to name only the two most important life-sustaining elements. Indeed, as developing countries, we have solid grounds for being even more concerned than the nations of the North, from whose industrialization process in the last 250 years or so, the whole problem of environmental degradation stems.

Dr. Subroto went on to explain that oil "accounts for more than 90 percent of total export earnings" for developing country oil producers and exporters. "These revenues," he told delegates at UNCED, "are our major source of foreign exchange, capital formation and for promoting growth and development . . . In short, if oil is in trouble, the economies of the oil exporters are in danger." Dr. Subroto then urged UNCED against adopting any drastic measures "that would penalize oil producers before there is substantive evidence to show that these measures are right and necessary." OPEC's agenda was to insure that any measures adopted by the world community would be "compatible with continued economic growth in both developed and developing countries." Some encouragement was given to the Arab position by Ali Hassan Mwinyi, President of Tanzania, who argued that "[r]eduction of fossil fuel consumption in developing countries would not be a viable option in the short-
term. Such a move would only mean larger numbers of users of
woodfuel and other biomass fuel, with obvious implications for de-
forestation and soil degradation." It was apparent that the cam-
paign to influence world opinion on the issue of fossil fuel had
succeeded. Dr. Subroto expressed his satisfaction with the acknowl-
edgment of the concerns of oil exporters during the negotiating pro-
cess, "reflected in the text of . . . [the] Convention" and hoped "that
its implementation will be carried out in the same spirit."244

The Climate Change Convention recognizes the concerns of the
oil producers not only by what is stated in its provisions but, ironi-
cally, also by what is excluded. The Convention notes

the special difficulties of those countries, especially developing countries, whose
economies are particularly dependent on fossil fuel production, use and exporta-
tion, as a consequence of action taken on limiting greenhouse gas emissions
(Introduction)

and concedes that

measures taken to combat climate change, including unilateral ones, should not
consist of arbitrary or unjustifiable discrimination or a disguised
restriction on international trade. (Article 3.5)

This point of detriment to international trade is of considerable im-
portance to oil producers whose revenues are so dependent on the
export of one commodity. The Convention also asks Parties to give
full consideration to what actions are necessary to meet the specific needs
and concerns of
countries whose economies are highly dependent on income generated from the
production, processing and export, and/or consumption of fossil fuels and asso-
ciated energy-intensive products. (Article 4.8(h))

Such needs could arise both from the adverse effects of climate change
and/or the impact of the implementation of response measures (Article 4.8).
The provision is reiterated:

The Parties shall . . . 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 associ-
ated energy-intensive products and/or the use of fossil fuels for which such
Parties have serious difficulties in switching to alternatives. (Article 4.10)

The Convention also specifies that in order for developing countries
to progress towards that goal [sustainable development], their energy con-
sumption will need to grow taking into account the possibilities for achieving
greater energy efficiency (Introduction). There is no doubt that the Con-
vention bends over backward to accommodate the demands of the
oil producers and in a very real sense, it could be argued that their

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243 Statement by Ali Hassan Mwinyi, President of the United Republic of Tanzania,
244 Statement by Dr. Subroto, supra note 239.
lobby along with the intense pressure of the United States against
firm timetables had the greatest impact on the provisions which were
finally accepted by all members. The result, from the environmental
perspective, is a weak, toothless Convention with no clear measures
encouraging reduction of fossil fuel consumption, no clarion call to
all nations to switch from oil to other less polluting sources of en-
ergy. The inference is that reducing CO₂ emissions will inevitably
lead to some reduction in the use of fossil fuels but the wording of
the Climate Change Convention reflects the political reality of a ma-
jor campaign by one group—the oil producers—which succeeded in
influencing all Parties to endorse its vested interest at the expense of
the environmental cause which ought to have been at the forefront of
international concern. Ironically, the oil producing nations were not
satisfied with the Convention. For Kuwait, Saudi Arabia, United
Arab Emirates, Iran and Iraq, "the Convention puts too much em-
phasis on CO₂ as being one of the causes of the deterioration of the
atmosphere and the climate."245 On a more positive note, Olof Jo-
hansson, Minister of the Environment for Sweden argued that the
very existence of the Convention lent urgency to the development of
new energy sources "in order to lessen dependence on fossil
fuels."246

The Financial Mechanism of the Climate Change Convention

One of the biggest challenges facing governments in the North
in their quest to reduce greenhouse gas emissions is the factor of
cost. As many developed countries are only now in 1993 crawling
their way out of a deep recession, the problem of being able to afford
environmental solutions is very real and compelling. Because there
was a perception that environmental remedies could lead to higher
unemployment, the government of President George Bush was wary
of involving the United States in financial commitments which could
danger the American economy. Unfortunately, the mass of evi-
dence pointing to the fact that environmentalism could easily be en-
couraged to become the big job creation program of this decade was
apparently overlooked.

A related problem springs from the firm determination of the
developing countries to hinge their participation in greenhouse gas
reduction on monetary and scientific assistance from the developed
nations. Hence, the Climate Change Convention involves two enor-
mous financial commitments for the North, in funding both North-
ern and Southern participation in measures to reduce global
warming. The problem of affordability is compounded by the na-

246 Statement by Olof Johansson, Minister of the Environment and Natural Resources,
tionalist sensitivities of developing nations which want the assistance without any appearance of political or indeed even environmental strings if these appear to infringe on their sovereign rights. The cause of alleviating the problem of global warming must take all these factors into consideration and yet find the funding to deal with the issue so that the whole world can benefit. As James Rusk of *The Globe and Mail* commented, "[o]ne of the toughest fights at the Earth Summit is about who is going to pay to save the Earth."247

Another complicating factor is the need for development in the South, rapid development if the populations are to be given a bare, minimum standard of living and some hope of upward mobility, some opportunity to acquire consumer goods, some kind of chance to educate their children and basically improve their lives. Human civilization has been built on certain premises, one of which is the notion that each generation seeks to improve conditions for the next one. This instinct is deep-rooted in human nature and could well be the mainspring of much that is progressive and decent about human civilization. However, in recent years, because of burgeoning world population and declining resources, this essential instinct has encountered obstacles in every country on this planet. Citizens of both developed and developing nations have found themselves consistently hindered in their search for economic and social betterment. It could be argued that Bill Clinton was elected President in 1992 largely because people wanted to change and reverse this negative trend which was becoming so pervasive a factor, even in the world's only remaining superpower. If Americans have sensed the urgent need to change the downward spiral of their lives, how much more desperate must be the feelings of the millions of inhabitants of developing nations who are so much poorer and who live so precariously on the brink of life-threatening destitution and poverty.

In promoting the cause of environmentalism, one has to consider the very real and compelling human interests of millions and weigh these carefully against the equally compelling need to protect our planet—our only home—from man-made degradation. The balance will be a difficult one and the alternatives are grim, no matter what one does. These difficulties are compounded by the mutual misunderstandings which prevail between North and South, the type of classic set statements which used to prevail between East and West until the end of the Cold War. The same confrontational rhetoric, the same defensiveness causes nations not to talk to each other in mutual comprehension of each other's dilemmas but to mouth cliches about each other, cliches which oversimplify issues that are complex.

In the pre-UNCED process, including the negotiations leading up to the Convention on Climate Change, it was expected that the financial problems of both North and South would become a significant topic of discussion internationally and within the many governments of participating nations. "Many developing countries argue that they need help from the developed world to finance environmental protection. And some say that environmental protection should take a back seat to their plans for economic development, as it has in developed countries until recently." However, there are those who argue that hurling money at the South will not solve the problem. Patrick McCully suggests that a huge increase in aid for global warming "ignores the fact that aid has left a legacy of neocolonialism, debt dependency, corruption and failure. The history of the transfer of western technologies to the Third World has been similarly dismal. Emphasis on the need for transfers of money and machinery to the Third World obscures the urgent need for radical changes in First World consumption patterns and global economic and political structures." Patricia Adams emphasizes another aspect of this problem: "Third World governments want money, and to get it they are prepared to hold hostage their people and the environment upon which their people depend. The Western governments—reeling from often-justified criticism of their own environmental records—want to buy the silence of their critics. But throwing money at the problem only promises to compound the damage." Whether one believes that the North owes the South because the North has created the environmental degradation and ought now to pay to clean it up or whether one believes that the South is eco-blackmailing the North, it is obvious that the financial aspect of international environmental treaties is inevitably both complex and fraught with potential conflict. An understanding of this background and the polarized opinions involved is essential when analyzing the financial provisions of the Climate Change Convention.

The Financial Mechanism is contained in Article 11 of the Convention which defines a mechanism for the provision of financial resources on a grant or concessional basis, including for the transfer of technology (Article 11.1), which 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 (Article 11.1). The

international entity on an interim basis is named: The Global Environment Facility (GEF) (Article 21.3).

The GEF, created in November 1990 for an initial three-year term, is managed by the United Nations Development Programme, the United Nations Environment Programme and the International Bank for Reconstruction and Development (a component of the Organization which is termed the World Bank). The GEF was created as a program of loans and grants "to help developing countries deal with environmental problems." Its main functions are to deal with ozone depletion, global warming, water management on an international level and conservation in the area of biological diversity.

The GEF has been criticized in both the North and the South for representing the interests of donor countries rather than the needs of recipient nations. Greenpeace has alleged that the GEF "is being used to 'greenwash' much larger bank projects which have a detrimental impact on the environment of developing countries." In response, Michael Gucovsky of the United Nations Development Programme asserted that the GEF was being "driven by the people who are the beneficiaries of its projects." The World Bank insists that development is "consistent with good environmental practices." Yet its detractors are many and very vocal. On the subject of global warming, Susan George, Associate Director of the Transnational Institute in Amsterdam warns that "bank lending in the energy sector would overwhelm anything the GEF might contribute to reducing greenhouse-gas emissions. The great bulk of the bank's loans will continue to be business as usual, although the GEF may tack a few environmental tails on some quite vicious dogs."

The developed countries that assumed the role of major aid donors in the Climate Change Convention feel more comfortable with the GEF because they control its parent organization, the World Bank. Speaking for the European Community, Carlos Borrego, Portugal's Environment Minister, explained that an appropriately adapted GEF "should play a leading role as the multilateral funding

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255 Rusk, supra note 247, at A8.
256 Frank McDonald, Greenpeace Allegations Denied by Bank, IRISH TIMES, June 1, 1992, at 7.
258 George, supra note 252, at A17.
mechanism." As of 1992 figures, the United States owns the largest block of shares from among the one hundred fifty-nine countries which are members of the World Bank. For Northern donors, this fact ensures that the funds disbursed to the GEF will be spent for the benefit of the recipient populations. Yet this very suggestion irks developing nation governments who view it as presumptuous and allege that the Bank's projects reflect the ideological priorities of the United States. Nations of the South have argued strenuously for more equity in the representation of these international financial institutions. Alhaji Sir Dawda Kairaba Jawara, President of the Republic of Gambia articulated developing country sentiment in calling for a restructuring of the GEF with expansion of its financial base to "allow financing of more diverse projects." The consensus which finally emerged was probably encouraged by the forty-third meeting of the International Monetary Fund and the World Bank Development Committee which took place in Washington D.C. in April 1992. Participating member nations called for "a reformed GEF to serve as the leading mechanism for new and additional UNCED funding."

The Climate Change Convention concedes that the Global Environment Facility should be appropriately restructured and its membership made universal (Article 21) and that the financial mechanism shall have an equitable and balanced representation of all Parties within a transparent system of governance (Article 11.2). There are provisions to reconsider and review the funding mechanism and to review the amounts required for undertaking the tasks specified in the Convention (Articles 11.3 and 11.4). "The Conference of the Parties will determine the policies, program priorities and eligibility criteria relating to the provision of . . . resources."

The Americans would have preferred much tighter control of environmental funding with the World Bank having a decisive voice in GEF projects but in this matter, "the tide seems to be running somewhat against the United States."

The attitude of the South with respect to the entire gamut of
environmental issues was to prefer a "green fund that would provide aid in the name of the environment, or an increase in funds for current development programs." Mostafizur Rahman, Foreign Minister of Bangladesh explained the green fund concept:

It is our belief that the new and additional finances would be best administered by a separate Green Fund which should be used to implement the activities approved by this Conference. The Fund should be democratically governed with equal voice for all members in setting priorities, identifying projects, and taking decisions on disbursements. While the Global Environment Fund (GEF) can be an appropriate mechanism to fund global programmes, it cannot address national problems, for which the separate Fund will be essential.

The South also wanted to ensure that the financing for the Climate Change Convention would be "additional to existing flows of Official Development Assistance. Most developed countries, including Japan, [the United States], Germany, Canada and Australia, were not prepared to provide this assurance and, consequently, efforts to define 'new and additional' were set aside." The Climate Change Convention, in conceding to neither extreme, represents a balance based on international consensus, a balance which, given the environmental consciousness which has now swept all nations and institutions like the World Bank, may just be quite effective in combating global warming.

Conclusion

Over the next half century, the damage caused by global warming may be quite modest. Over the much longer term, it may be greater, although not (at least for rich countries) catastrophic. The world can react to this prospect in two ways: it can take action to slow down climate change, or it can wait until it happens and then adapt. The balance between these courses will depend on how the costs of action compare with the costs of wait-and-see.

The Framework Convention on Climate Change takes a middle course between the two alternatives presented above in that it takes a number of initial steps to study, categorize and reduce greenhouse emissions but does so tentatively without firm commitments or guidelines, which alone could have a dramatic impact on the problem of global warming. Although the result is not 'business as usual', the measures outlined in this article will not dramatically reverse the factor of climate change unless individual states take firm steps to curb emissions with specific targets and deadlines. The European interest in this direction is very encouraging. The fact that

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267 Id.
269 Canadian Delegation Report, 5th Sess., supra note 263.
the United States of America now has a dedicated environmentalist as its Vice-President is also likely to result in a change of heart on the part of the world's leading producer of CO₂ emissions. Nicholas Lenssen of the Worldwatch Institute suggests that "[i]t would be very easy to . . . reduce emissions' below 1990 levels with strong leadership on the issue in Washington."²⁷¹ Maurice Strong, Secretary-General of UNCED, has expressed his expectation that President Clinton and Vice-President Gore will "raise sustainable development to a higher level in international politics."²⁷² However, even with the encouragement of Washington, "a long-term, complex problem such as global warming will not be solved overnight. What is important initially is to establish a meaningful process for addressing the issue."²⁷³ As Thorbjorn Berntsen, Norway's Environment Minister explained, implementational measures "must cover all climate gases, address sources and sinks and all economic sectors."²⁷⁴

The Secretary-General of the United Nations tried to view the Convention in a positive light. While admitting that "[t]he initial level of commitment is not as high as many would have wished," Boutros Boutros-Ghali suggested that "a low level of threshold should maximize participation—which is one condition for effectiveness. And the process of policy review should improve commitments over time."²⁷⁵

If developed nations implement ideas such as the carbon tax, this could have an impact on the problem although the economic consequences would have to be balanced carefully against the intended environmental benefits. Flavio Cotti, Head of the Swiss Delegation to UNCED emphasized that "[i]n order to avoid distortions affecting economic competitiveness it is of fundamental importance to introduce such measures simultaneously in all industrialised countries, or at least in a considerable number of them."²⁷⁶ Nations like Sweden have long supported the carbon tax idea as part of an integrated process of environmental clean-up.²⁷⁷ The Netherlands has supported the introduction of a CO₂ tax in the European Commu-

The carbon tax proposal has its supporters and its detractors and time alone will tell whether the idea will become popular enough to be accepted by the business communities and populations of North America. Helga Steeg, Executive Director of the International Energy Agency suggests that "[e]nergy markets work best when they are competitive and where prices reflect costs. Internalizing environmental costs, through economic instruments such as taxes, is the best way to use the market's strengths." But, she concedes, "we must be able to estimate these costs. For many environmental problems, and especially for climate change, we are far from knowing all of the costs."279

Meanwhile, the level of activity on the issue of combating global warming has not diminished with the signing of the Convention on Climate Change. In his Report of 1st June 1992 (just prior to UNCED), Chairman Jean Ripert of the Intergovernmental Negotiating Committee emphasised that "what is essential now is for States to keep up the momentum of the global partnership of nations created in the negotiation of the Convention."280 Acting on this advice, the Intergovernmental Negotiating Committee held its sixth session in Geneva, Switzerland between 7th and 10th December 1992.281 Though the work was largely procedural, further, substantive meetings have been scheduled for 1993.282 Because of the rapid pace of national ratifications of the Convention, it is likely to enter into force earlier than had been expected, possibly leading to the initial Conference of the Parties (COP) some time in 1994.283 Hopefully, the continuing process will be able to deal with the issues of finance, specific timetables and data collection that are of crucial importance to the implementation of the Convention and keep environmental concern focused on global warming. The continuity of the process is also fundamental for the formulation of future Protocols because "[e]ven weakened conventions can lead to stronger ones."284 One could point, for precedent to the convention dealing with the ozone problem. "The original ozone convention adopted in 1985 was even weaker than the climate convention and did not establish any specific obligations. Within two years, states had adopted a protocol mandating a 50 percent reduction in emissions of chlorofluorocarbons; in 1990, they agreed to a complete phaseout of these chemicals by

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282 Id.
283 Id.
284 A Bargain Not a Winge, The Times (London), June 1, 1992, at 15.
2000 and [in 1992] the phaseout was advanced to 1995."\textsuperscript{285} Speaking on behalf of the European Community, Carlos Borrego, Environment Minister of Portugal confirmed the Community’s interest in contributing to the preparation of Protocols covering specific issues, "especially the limitation of CO\textsubscript{2} emissions."\textsuperscript{286}

Meanwhile, some European States made initial announcements concerning their specific plans to reduce greenhouse emissions. The United Kingdom committed itself to reducing CO\textsubscript{2} emissions and those of other greenhouse gases to 1990 levels by the year 2000 with the qualification that this was "provided others do so as well."\textsuperscript{287} Germany expressed its targets as a twenty to thirty percent reduction in CO\textsubscript{2} emissions by the year 2005;\textsuperscript{288} Denmark committed to a twenty percent reduction of CO\textsubscript{2} emissions by 2005 (compared to 1988 levels);\textsuperscript{289} and the Netherlands committed to a reduction of three to five percent in 2000 (compared to 1990 levels).\textsuperscript{290} In a public statement, the European Community confirmed its "target to reduce CO\textsubscript{2} emissions to 1990 levels by the year 2000."\textsuperscript{291}

Richard E. Benedick, formerly of the United States State Department commented that the Earth Summit "should not be judged by the immediate results but by the process it sets in motion."\textsuperscript{292} Michael Howard, Secretary of State for Environment of the United Kingdom optimistically declared that the Convention would "not be the international community’s last word on this subject."\textsuperscript{293} Chancellor Helmut Kohl of Germany invited delegates to his country to attend the first follow-up conference on climate change.\textsuperscript{294}

Finally, the commencement of this article suggested that the "road to environmental hell is paved with good intentions."\textsuperscript{295} We have analyzed in considerable detail a document which is replete with good intentions, a Convention which in some ways charts a new course in environmental considerations. Despite its many imperfections, its significance as a marker in international environmental law...
cannot be underestimated and ought not to be underrated. Having created the legal document, we have now to see whether the provisions will result in progressive action and implementation or remain within the realm of good intentions. Eiour Gounason, Iceland’s Minister for Environment made the point eloquently: “Our efforts will not be measured by the number of pages that pour out of this conference, not by the words but by our deeds.”\footnote{Statement by Eiour Gounason, Minister for the Environment, Iceland, UNCED, Rio, June 5, 1992.} Although we are not absolutely certain that global warming could result in environmental hell, can we afford simply to stop at ‘good intentions’ and take a chance with the future of our children and of our planet?

**Postscript**

After this article was written, on the 22nd April 1993, United States President Bill Clinton committed his nation “to reducing our emissions of greenhouse gases to their 1990 levels by the year 2000.”\footnote{Richard L. Berke, *Clinton Supports Two Major Steps for Environment*, N.Y. TIMES, April 22, 1993, at A1.}