CLIMATE CHANGE ISSUES AND CLIMATE CHANGE NEGOTIATIONS:
AN OVERVIEW FROM BANGLADESH PERSPECTIVE
CLIMATE CHANGE ISSUES AND CLIMATE CHANGE NEGOTIATIONS:
AN OVERVIEW FROM BANGLADESH PERSPECTIVE

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www.iucn.org/bangladesh
FORWARD

I am happy that the document titled “Climate Change Issues and Climate Change Negotiations: An Overview from Bangladesh Perspective” has been prepared by IUCN Bangladesh. Bangladesh is the innocent victim of climate change due to its low riparian flat coastal landscape and high population density with poor financial capacity to respond to the adverse impact of climate change. Natural hazards like floods, droughts, cyclones and sea level rise are increasing day by day that will push poorer section of the population to the very margin of survival. Bangladesh government realizes that it is necessary to raise her voice in global forum in an effort to minimize impact of global warming largely caused by developed countries.

Realizing the potential of participating negotiations with global community Bangladesh government has been joining in different negotiation talks. Already a good number of experts on climate change and government officials from relevant ministries have participated and created a well stand among the parties during negotiations. Members of negotiation team have so far submitted a number of documents separately. However, as the negotiation process is getting complex, government realized a concrete document on Bangladesh position is necessary for current and future guidance.

In view to the above a team comprising experts prepared the document titled “Climate Change Issues and Climate Change Negotiations: An Overview from Bangladesh Perspective”. It is a living document in the sense that it needs reviewing, updating and revising periodically and also as required.

I would like to convey my thanks and gratitude to the DFID and DANIDA, Bangladesh for providing fund for the formulation of this nationally important document. I also would like to convey my thanks to IUCN Bangladesh Country Office for facilitating formulation process of this document and all the experts who have provided their valuable inputs.

I hope this document will provide guidance to the experts and researchers for future negotiation at global platform.

Mesbah ul Alam
Secretary
Ministry of Environment and Forests
Government of the People's Republic of Bangladesh
Climate change becomes a great challenge for the world including Bangladesh due to its unpredictable nature. Emission of green house gas is the key reason for global warming caused mostly by the developed and developing countries resulting to climate change. As an agrarian economy, the total agricultural production and cropping patterns are inherently dependent on the weather and climate. Hence, a majority of the population of Bangladesh will be directly affected due to recent changes in climate.

Bangladesh Government has taken a number of initiatives to cope with the changed situation. One of these nationally important initiatives is to negotiate with global leaders and green house gas producers to come up with a smooth solution for reducing green house gases. Government officials from relevant ministries and renowned experts are joining successfully to climate change negotiations. Along with this, Ministry of Environment and Forest have prepared BCCSAP (2009) and NAPA (2009) those are being used for planning and designing to adapt with climate change and negotiating in global forum. IUCN is proud to be deeply associated in preparation of these documents.

Bangladesh has made significant in active participation in negotiation process. The necessity of keeping record regarding Bangladesh's position in climate change negotiations in global context has been realized by the government. Publication of the document titled “Climate Change Issues and Climate Change Negotiations: An Overview from Bangladesh Perspective” is an initiative to accelerate future negotiations.

I think this document will help to take stock of information and strengthen the negation skill of researchers in future. At the end I would like to thank Ministry of Environment and Forest for their continuous support to the project. I also would like to thank DFID and DANIDA Bangladesh for their financial support.

Dr. Hasan Mahmud
Member of Parliament and Hon'ble State Minister
Ministry of Environment and Forests
Government of the People's Republic of Bangladesh
“Climate Change Issues and Climate Change Negotiations: An Overview of from Bangladesh Perspective” is a document that illustrates the way climate change negotiations is going on from the beginning till now and where Bangladesh took stand in this negotiation process. This document will be a standard for those who want to understand the whole negotiation process and also it will be a guidebook for them who want to be a part of these processes. We would like to express our gratitude with immense pleasure to Dr. Rezaul Karim, Environment Specialist; Dr. Ansarul Karim, Managing Director, ECOMAC; Mr. Quamrul Islam Chowdhury, FEJB; Dr. Md. Nasiruddin, Joint Secretary, MoEF; Mr. Aparup Chowdhury, Joint Secretary, MoE; Dr. Fazle Rabbi Sadeque Ahmed, Director (Technical), DoE; Mr. Mirza Shawkat Ali, Deputi Director, Climate Change Cell, DoE; Mr. Ziaul Haque, Deputy Director (Technical), DoE and Mr. Md. Shamsuddoha, Chief Executive, PRDI for their technical inputs in preparing and finalizing the document.

We are grateful to Ministry of Environment and Forests for their continued support. We are also grateful to DFID and DANIDA, Bangladesh for their financial support. We must not forget the hard work from team members of the project of IUCN Bangladesh, particularly Mr. Nasim Aziz and his associates, namely: Ershadul Kader Faruki, MD. Ahsanul Wahed, Eshrat Sharmen Akhond, Md. Kamruzzaman and other colleagues of IUCN Bangladesh.

Editors
Dr. Ainun Nishat
Dr. M. Asaduzzaman
Dr. S.M. Munjurul Hannan Khan
### LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AR4</td>
<td>Assessment Report 4</td>
</tr>
<tr>
<td>AOSIS</td>
<td>Alliance of Small Island States</td>
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<tr>
<td>AWG-KP</td>
<td>Ad-hoc Working Group on Kyoto Protocol</td>
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<tr>
<td>AWG-LCA</td>
<td>Ad-hoc Working Group on Long-term Cooperative Action</td>
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<td>BAP</td>
<td>Bali Action Plan</td>
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<tr>
<td>BCCSAP</td>
<td>Bangladesh Climate Change Strategy and Action Plan</td>
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<td>BIDS</td>
<td>Bangladesh Institute of Development Studies</td>
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<td>CC</td>
<td>Climate Change</td>
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<tr>
<td>CDM</td>
<td>Clean Development Mechanism</td>
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<tr>
<td>CO2</td>
<td>Carbon dioxide</td>
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<tr>
<td>CH4</td>
<td>Methane gas</td>
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<tr>
<td>COP</td>
<td>Conference of Parties</td>
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<td>DoE</td>
<td>Department of Environment</td>
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<tr>
<td>EIG</td>
<td>Environmental Integrity Group</td>
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<tr>
<td>EITs</td>
<td>Economies in Transition</td>
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<tr>
<td>EGTT</td>
<td>Expert Group on Technology Transfer</td>
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<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FEJB</td>
<td>Forum of Environmental Journalists of Bangladesh</td>
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<tr>
<td>G77</td>
<td>Group 77</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<tr>
<td>GCM</td>
<td>Global Circulation Model</td>
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<td>GHG</td>
<td>Green House Gas</td>
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<td>Gt</td>
<td>Gigatonnes</td>
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<td>GWP</td>
<td>Global Warming Potentials</td>
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<td>HYVs</td>
<td>High Yielding Varieties</td>
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<tr>
<td>IAPAL</td>
<td>International Air Passenger Adaptation Levy</td>
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<tr>
<td>INC</td>
<td>Inter-governmental Negotiating Committee</td>
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<td>IPCC</td>
<td>Inter-governmental Panel on Climate Change</td>
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<tr>
<td>IPR</td>
<td>Intellectual Property Rights</td>
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<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>LCS</td>
<td>Low Carbon Strategy</td>
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<td>LDC</td>
<td>Least Developing Country</td>
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<tr>
<td>LULUCF</td>
<td>Land Use Land Use Change and Forestry</td>
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<tr>
<td>MoEF</td>
<td>Ministry of Environment and Forest</td>
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<td>NAPA</td>
<td>National Adaptation Programme of Action</td>
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<tr>
<td>MCTF</td>
<td>Multilateral Climate Technology Fund</td>
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<td>NAMA</td>
<td>Nationally Appropriate Mitigation Action</td>
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<td>NAMC</td>
<td>Nationally Appropriate Mitigation Commitments</td>
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<td>N2O</td>
<td>Nitrous Oxide</td>
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<tr>
<td>ODA</td>
<td>Official Development Assistance</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
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<td>OPEC</td>
<td>Organization of Petroleum Exporting Countries</td>
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<tr>
<td>PKSF</td>
<td>Palli Karma-Sahayak Foundation</td>
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<tr>
<td>PRDI</td>
<td>Participatory Research and Development Initiative</td>
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<tr>
<td>REDD</td>
<td>Reducing Emissions from Deforestation and Forest Degradation</td>
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<tr>
<td>SAR</td>
<td>Second Assessment Report</td>
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<tr>
<td>SBI</td>
<td>Subsidiary Body on Implementation</td>
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<tr>
<td>SBSTA</td>
<td>Subsidiary Body on Science and Technological Advice</td>
</tr>
<tr>
<td>SIDS</td>
<td>Small Island Developing States</td>
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<tr>
<td>SRES</td>
<td>Special Report on Emission Scenarios</td>
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<tr>
<td>SST</td>
<td>Sea Surface Temperature</td>
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<tr>
<td>TNA</td>
<td>Technology Needs Assessment</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNCED</td>
<td>United Nations Conference on Environment and Development</td>
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<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
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<tr>
<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
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<tr>
<td>USA</td>
<td>United States of America</td>
</tr>
<tr>
<td>WMO</td>
<td>World Meteorological Organization</td>
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1.1 INTRODUCTION

Climate change is a subject matter of serious discussion in multiple discourses on growth and development, environment, international negotiations, development of sectors such as agriculture, water resources, health, disaster risk reduction and flows of finance and technology; and for valid reasons. The adverse impacts of climate change pose a very serious threat to food security with the spectre of widespread hunger and famine that may lead to a politically, economically and socially a destabilized global system leaving no country immune from its effects. Bangladesh, at present a least developing country (LDC) but aspiring to become a lower middle-income nation in about a decade's time, may have its growth and development prospects thrown more or less out of gear if the impacts of climate change materialise as predicted. Considering the dangers it poses, world leaders established a framework convention called the United Nations Framework Convention on Climate Change (UNFCCC, The Convention for short) in Rio de Jenero during the Earth Summit in 1992 to systematically address the issues. Since then it has come a long way to tackle the issue globally but not yet reached to the point of full and complete resolution. Bangladesh plays an active part in these negotiations.

To properly understand the implications of the negotiations one has to examine closely the contentious issues whether scientific, political, and economic or social as well as the dynamics of position of various groups taking part and jostling for reflection of their views in the negotiations. This report will try to describe and analyse these issues from a Bangladesh perspective. The report shall try to do this through a step by step process. The report is structured in the following way.

The subsequent sections in this chapter first defines climate and global climate change followed by what has been observed in Bangladesh. It then goes on to discuss its scientific basis and the factors behind such change. This is followed by the available global evidence and that pertaining to Bangladesh. The description will be kept as simple and brief as possible but in this and other sections, there may be details given in an Appendix and/or adequate references provided for those who may wish to go deeper in the issues. The science issues are followed in Chapter 2 by the possible impact of climate change globally as well as in Bangladesh. The third chapter which is the core of this report is sub-divided into various sub-sections and deals with the negotiation process, the milestones achieved, the current contentious issues, the negotiations procedures and the role played Bangladesh so far in these negotiations. Chapter 4 discusses the future of the negotiations and in this connection tries to present possible stance that Bangladesh may take regarding the post-Durban talks. Chapter 5 tries to sum up the previous discussion and make suggestions for the future negotiations.
1.2 CLIMATE AND CLIMATE CHANGE

Climate is often defined as 'average weather' and is usually described in terms of the mean and variability (maximum and minimum) of temperature, precipitation and wind speeds over a period of time, normally over 30-50 years. In its strict sense, such averages therefore cannot be taken for a smaller number of years say 10-15 or so which is often done in popular parlance. Climate change obviously therefore signifies a change in the pattern of any or all or a sub-set of these elements of the climate.\(^1\) Usually one observes a change in all and these are set in motion by a change or rise temperature due to what is often called the Greenhouse Effect.

1.2.1 The Greenhouse Effect

A greenhouse is a covered space which allows the heat to be trapped so that this may be usefully utilized generally for growing of vegetables and flowers in temperate or colder countries and regions. Certain gases such as carbon di-oxide (CO\(_2\)), methane (CH\(_4\)), nitrous oxide (N\(_2\)O), even water (H\(_2\)O) vapour when these are in the atmosphere works a kind of blanket around the earth. Much of the heat (energy) that the earth receives from the sun is usually reflected back to space. But the existence of the gases mentioned allows some of the heat to be trapped within the earth systems (surface, atmosphere, oceans) and thus warm up the earth as a whole. In fact, without the natural greenhouse effect the earth would have been a very cold planet and not fit for human habitation. The average temperature of the earth is 15°C with large variation across regions. The greenhouse effect is shown schematically in Figure 1 below.

![Figure 1: A schematic diagram of the greenhouse effect](http://www.global-greenhouse-warming.com/)

\(^1\) There is a difference in the usage of the term "climate change" by IPCC and the UNFCCC. (see later for the discussion on these two international institutions). IPCC, a scientific body, refers to climate change as any change in climate over time thus including both human induced and natural changes. UNFCCC, a quasi administrative cum political body refers to climate change due to direct or indirect human actions. The reasons are clear for the difference in emphasis. The scientific body has to look into the phenomenon in its totality for understanding the relative importance and the differentials in causes between human-induced and natural climate change. The administrative/political body can only take international action on only those related to human activity.
1.2.2 Record of Rise in Global Temperature

When accumulation of the gases mentioned earlier, called greenhouse gases (GHG), increases in the atmosphere, the temperature rises above what one would expect to occur naturally. And exactly this had been happening over the last one hundred and fifty years or so particularly since the time of the Industrial Revolution in the nineteenth century (see Figure 2 for the trend in global mean temperature).

The global average surface temperature has increased by about 0.74°C over the past hundred years between 1906 and 2005. There was not much overall change from 1850 to about 1915, aside from ups and downs associated with natural variability and possibly due to poor sampling. An increase 0.35°C occurred in the global average temperature from the 1910s to the 1940s, followed by a slight cooling (0.1°C), and then a rapid warming (0.55°C) up to the end of 2005. Over the 50 years since 1950, the average rise in temperature per decade had been 0.026, but the second half of these 50 years witnessed a rise of 0.052 degrees per decade, i.e., double the rate for the first half. The rise in average global temperature has been characterized by fall in the number of cold nights and rise in warmer ones as well as heat waves which became more frequent.

The warmest years over these 100 years or so are 1998 and 2005. In fact, 11 of the 12 warmest years have occurred in the 12 years from 1995 to 2006. Warming, particularly since the 1970s, has generally been greater over land than over the oceans. Cities in general are warmer than the countryside and this is often termed as urban heat island effect.

1.2.3 Changes in Rainfall Patterns

The rise in temperature is the prime driver for the consequent changes in wind and ocean currents, cloud formation and their timings and subsequently changes in rainfall patterns over geographic space and time (between and within years). The patterns of observed changes in precipitation indicate that substantial increases in heavy precipitation have occurred in the past. At the same time more intense and longer drought periods have
been recorded since the 1970s. Over-all there had been much more deviation in terms of days with heavy rainfall from the normal rainy days in more recent times.

1.2.4 Bangladesh Situation
The present temperature patterns for Bangladesh are shown in Figure 3. While this shows an expected pattern of maximum and minimum temperatures, there had been changes over time indicating that the lowest minimum temperature had demonstrated a clear upward trend over the period 1951-90. On the other hand in case of precipitation levels, there had been a rise, albeit small, in the total rainfall. But this trend was not the same in every region. There is a tendency for the north-eastern part of the country to experience more rain (by 1.15% per year) while the southeastern part shows a falling tendency (by 0.74% per year). The north-western part shows an upward trend while the trend in the southwest is unclear. Very limited evidence (limitations due to the length of data as well as number of stations) indicates a remarkable decrease in heavy rainfall days.

![Figure 3: Present temperature patterns for Bangladesh](source: Based on data from the Bangladesh Meteorological Department website)

1.3 FACTORS BEHIND CLIMATE CHANGE

The issues of climate change, its scientific basis, physical impacts and necessary response measures are studied by many researchers world-wide. However, the most authoritative among these are those under the Inter-governmental Panel on Climate Change (IPCC). That the warming is due to greenhouse effects of higher concentration of the various gases mentioned earlier has been known. These gases are released due to both natural factors and human-induced one. The Assessment Report 4 (AR4) of the IPCC has concluded that the human-induced factors are the main cause behind the increasing concentration of these gases in the atmosphere. Such anthropogenic factors include fossil fuel (coal, natural gas, oil) burning for various energy use and consumption.

3. IPCC has been set up for the specific purpose of studying climate change and related issues by the United Nations Environment Programme (UNEP) and the World Meteorological Organisation (WMO) and endorsed by the UN General Assembly. The IPCC works through 3 working groups on science of climate change, adaptation and mitigation. So far the IPCC has published 4 assessments of climate change and a fifth one is underway. Several Bangladeshis at different times since second assessment report have worked in various capacities for preparing these reports.
purposes and release of CO\textsubscript{2} in the process, wet paddy agriculture (release of CH\textsubscript{4}), livestock manure management and enteric fermentation (release of CH\textsubscript{4}, N\textsubscript{2}O), deforestation (release of CO\textsubscript{2}) and other land use changes, waste management (release of CH\textsubscript{4} and N\textsubscript{2}O), certain industrial processes (e.g., CO\textsubscript{2} from cement production), burning of biomass and agricultural residues (release of CO\textsubscript{2}). Carbon di-oxide and CH\textsubscript{4} are the most important GHGs but these have different lengths of life in the atmosphere while their global warming potentials are also different. Normally, these are aggregated by using these global warming potentials (GWP) as weights.

1.3.1 Global Carbon Balance

As we shall see in a short while, it is the release of carbon which appears to be most important. In fact, when the natural processes of release of carbon is compared with the human-induced ones, the latter is rather small but is likened to the proverbial straw that broke the camel's back.

The CO\textsubscript{2} that nature emits (from the ocean and vegetation) is balanced by natural absorptions (again by the ocean and vegetation). The ocean releases about 332 gigatonnes\textsuperscript{4} which is balanced by absorption of 338 gigatonnes (Figure 4). Similarly vegetation and land release and absorb carbon in roughly equivalent amounts. It is the human-induced emission of 29 gigatonnes which is not totally neutralized and thus upset the natural balance. About 40% of human CO\textsubscript{2} emissions are absorbed, mostly by vegetation and the oceans. The rest remains in the atmosphere to raise concentration of carbon in the atmosphere.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{carbon_cycle.png}
\caption{Global Carbon Cycle}
\end{figure}

\textbf{Source: Figure 7.3, IPCC AR4}

1.3.2 Atmospheric Concentration of GHGs

According to the IPCC, beginning with the industrial revolution in the 1850s, the human consumption of fossil fuels has elevated CO\textsubscript{2} levels from a concentration of \approx 280 ppm (pre-industrial level as of 1850) to 379 ppm in 2005 in the atmosphere. While one observes year on year variation in the growth rate of the concentration of CO\textsubscript{2}, the more recent years of 1995-2005 average growth was 1.9 ppm (parts per million)\textsuperscript{5}. The annual CO\textsubscript{2} concentration growth rate was larger during the last 10 years (1995-2005 average: 1.9 ppm per year than it has been over 1960-2005 which was 1.4 ppm). The global

\textsuperscript{4} 1 giga means a thousand million or a billion. One gigatonne is therefore 1 billion (i.e., 100 crore) metric tons.
\textsuperscript{5} X Parts per million means if there is a million units of the air in the atmosphere, one will observe x units of the particular substance. Ppb similarly refers to parts per billion (units).
The atmospheric concentration of CH$_4$ has risen from a pre-industrial value of about 715 ppb to 1732 ppb in the early 1990s, and further to 1774 ppb by 2005. The global atmospheric N$_2$O concentration increased from a pre-industrial value of about 270 ppb to 319 ppb by 2005.

The concentration in the atmosphere of GHGs is the net result of emission and sequestration within the natural physical systems of the earth. Carbon di-oxide (CO$_2$) is the most important anthropogenic GHG. The annual emission of CO$_2$ have grown between 1970 and 2004 by about 80%, from 21 to 38 gigatonnes (Gt), and represented 77% of total anthropogenic GHG emissions in 2004 (Figure 5-a). The rate of growth of CO$_2$-eq emissions was much higher during 1995-2004 (0.92 tCO$_2$-eq per year) than during the previous period of 1970-1994 (0.43 GtCO$_2$-eq per year).

Figure 5: GHG emission by year, type and source
Source: Figure 2.1, IPCC AR4

Note that CO$_2$ emission due to fossil fuel burning is the most important emission followed by that due to deforestation and associated activities (Figure 5-b). Methane and N$_2$O follow CO$_2$ in that order. On the whole taking all such gases together, major activities which release GHGs include energy supply, industry, transport, forestry, agriculture and residential and commercial buildings in that order (Fig. 5-c). Waste and waste water is also a not inconsiderable source. This situation pertains to 2004-05. Countries vary widely in their emission levels and sources. Furthermore, since then several countries have very substantially increased their levels of emission. These issues are discussed below.

1.3.3 GHG Emissions by Country Groups and Individual Countries
There are two general groupings of countries which are often used when the global climate change issues are discussed. One is the so called Annex I countries and the rest (called Non-Annex I countries). The Annex I countries are in general developed countries and includes erstwhile socialist countries (called countries in transition). Their emission levels since 1990 is given in Annex 1, where a summary of the emission by this group of countries is provided.

Figure 6 shows the time profile GHG emission of the Annex I countries sub-divided into the countries in transition and the others. Apparently the situation had been static as the...
aggregate figures for the various years indicate. But when the countries are sub-grouped, one finds that actually there had been substantial fall on account of the countries in transition and that much of the reduction has taken place early one but since then it has also become static. For the other countries (developed country parties in the West), there had been a rise in the beginning but had remained basically static since then. But even this may seem deceptive because there had been a continuous rise, however small, in the emission by these advanced countries in the West (Figure 7). It is only because of the persistent reduction of emission in the countries in transition that the aggregate picture seems stagnant. Whether stagnant or not, the level of emission by Annex I countries in 2006 stood at a staggering 16.7 billion metric tons of which 12.9 billion metric tons or 77% was due to the advanced developed countries of the West. By 2008, there had been an almost imperceptible fall to 16.5 billion metric tons of GHGs by the Annex I countries.

![Greenhouse gas emissions including LULUCF](image)

**Figure 6: GHG Emission by Annex I Countries (1990-2006)**

*Note: 1tg or tera ($10^{12}$) gm is equal to a million metric ton. Thousand tera gram is thus a billion mt.*

**Figure 7: GHG Emission by Annex I Countries (1990-2006)**

*Source: UNFCCC/SBI, Report on national greenhouse gas inventory data from Parties included in Annex I to the Convention for the period 1990-2006, Document FCCC/SBI/2008/12, 17 November 2008*
As the case for the sub-groups show, similarly countries vary widely in their GHG emission and also for specific gases. The USA topped the list of countries in total emission as well as carbon emission (see Table A1.1 and A1.2 in Annex 1). In 2006, it emitted a total of just about 6.2 billion metric tons taking all GHGs into consideration while for CO₂ it was a slightly less at 6.0 billion metric tons. Thus, the USA alone accounted for more or less 50% of the emission from western countries. A look at the tables also indicate that a few countries together account for the lion’s share of the emission. They include the EU countries, Japan and the Russian Federation accounting for more than 7.5 billion metric tons of GHG emission in 2006.

The situation in the Non-Annex I i.e., basically developing and least developed countries (LDC) is quite different. There is a problem in comparison, however, due to lack of comparability or completeness of data for the same year and thus difficult to aggregate. Yet here too again a few countries outweigh all others. China now ranks first in emission in the world (see Table A1.3 in Annex 1).

The available figures indicate that in mid-1990s or around that time, the total emission from 132 Non-Annex I countries was more or less 11.7 - 11.9 billion metric tons (without or with LULUCF) which must have increased since then and by now more or less match those from the Annex I countries. However, only a few countries dominate (Table 1). Asia-Pacific group of countries is at the top but this is due to China and India who release one-half to one-third of Non-Annex I emission. Bangladesh emitted at most around 50 million mt. Of the world total of nearly 28-29 billion metric tons of GHGs, this accounts for somewhere one-fifth of 1% at most.

<table>
<thead>
<tr>
<th>Region/country</th>
<th>Without LULUCF</th>
<th>With LULUCF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>1612.9</td>
<td>1201.8</td>
</tr>
<tr>
<td>Nigeria</td>
<td>242.6</td>
<td>347.6</td>
</tr>
<tr>
<td>South Africa</td>
<td>379.8</td>
<td>361.2</td>
</tr>
<tr>
<td>Asia - Pacific</td>
<td>7929.7</td>
<td>7614.1</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>45.9</td>
<td>53.8</td>
</tr>
<tr>
<td>China</td>
<td>4057.3</td>
<td>3649.8</td>
</tr>
<tr>
<td>India</td>
<td>1214.2</td>
<td>1228.5</td>
</tr>
<tr>
<td>S. America - Caribbean</td>
<td>2058.6</td>
<td>2986.5</td>
</tr>
<tr>
<td>Brazil</td>
<td>659.0</td>
<td>1477.0</td>
</tr>
<tr>
<td>Mexico</td>
<td>380.0</td>
<td>524.6</td>
</tr>
<tr>
<td>Non -Annex I</td>
<td>11735.4</td>
<td>11931.5</td>
</tr>
</tbody>
</table>

Source: UNFCCC/SBI Sixth compilation and synthesis of initial national communications from Parties not included in Annex I to the Convention Addendum Inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases, Document FCCC/SBI/2005/18/Add.2 25 October 2005

The picture that emerges from these figures is one where, in general, developed countries and major emerging economies lead in total CO₂ emissions. Developed nations typically have high CO₂ emissions per capita, while some developing countries lead in the growth rate of CO₂ emissions. Incidentally, these uneven contributions to the emission by level of development have become the most important bones of contention between the developed and the developing countries as we shall see later.
1.4 THE FUTURE

1.4.1 Projected Emission Rates
What the future will be in terms of climate change depends pretty much on what emission scenario one assumes. The IPCC had commissioned a Special Report on Emission Scenarios (SRES) which considered 6 basic types of projections all assuming no additional climate policies but differences in economic and population growth rates. The SRES and subsequent post-SRES projections (Figure 8) indicate that at the best the emission rates will rise before they fall (like a Kuznets curve).7 In the more pessimistic cases, it continues to rise by 2100 to as much as 4 times the present rate.

Figure 8: Projected Global Emission Rates in 21st Century
Note: Global GHG emissions (in GtCO₂-eq per year) in the absence of additional climate policies: six illustrative SRES marker scenarios (coloured lines) and 80th percentile range of recent scenarios published since SRES (post-SRES) (gray shaded area). Dashed lines show the full range of post- SRES scenarios. The emissions include CO₂, CH₄, N₂O and F-gases

1.4.2 Projected Temperature Change and Sea Level Rise
The projected changes in temperature and sea level rise corresponding to the projected emission levels show (Table 2) depending upon a future described under the scenarios, temperature may rise by up to at least 1°C and may rise by more than 6°C. Most predict between 1.5 and nearly 4°C. Sea level may rise by nearly 0.6 metres on the average. There are two points of observation here. First the changes in future may not be linear and there may be sudden breaks and secondly, the changes will continue even if a kind of GHG level is established globally.

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7. Kuznets curve named after Simon Kuznets, an economist, postulates that income inequality goes up with initial stages of economic growth before it falls with further growth and thus describes an inverted U-curve. Three of the SRES projections indicate a similar relationship over time.
Likely Temperature and Sea Level Rise due to Projected Emission Rates

Table 2

<table>
<thead>
<tr>
<th>Case</th>
<th>Best estimate</th>
<th>Likely range</th>
<th>Model-based range excluding future</th>
<th>Sea Level Rise (M at 2090-2099 relative to 1980-1999)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Year 2000 concentrations(^b)</td>
<td>0.6</td>
<td>0.3-0.9</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>B1 scenario</td>
<td>1.8</td>
<td>1.1-2.9</td>
<td>1.18-0.38</td>
<td></td>
</tr>
<tr>
<td>A1T scenario</td>
<td>2.4</td>
<td>1.4-3.8</td>
<td>0.20-0.45</td>
<td></td>
</tr>
<tr>
<td>B2 scenario</td>
<td>2.4</td>
<td>1.4-3.8</td>
<td>0.20-0.43</td>
<td></td>
</tr>
<tr>
<td>A1B scenario</td>
<td>2.8</td>
<td>1.7-4.4</td>
<td>0.21-0.48</td>
<td></td>
</tr>
<tr>
<td>A2 scenario</td>
<td>3.4</td>
<td>2.0-5.4</td>
<td>0.23-0.51</td>
<td></td>
</tr>
<tr>
<td>A1FI scenario</td>
<td>4.0</td>
<td>2.4-6.4</td>
<td>0.26-0.59</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

a) These estimates are assessed from a hierarchy of models that encompass a simple climate model, several Earth Models of Intermediate Complexity, and a large number of Atmosphere-Ocean General Circulation Models (AOGCMs) as well as observational constraints.
b) Year 2000 constant composition is derived from AOGCMs only.
c) All scenarios above are six SRES marker scenarios. Approximate CO2-equivalency concentrations corresponding to the computed radiative forcing due to anthropogenic GHGs and aerosols in 2100 (see p. 823 of the WGI TAR) for the SRES B1, A1T, B2, A1B, A2 and A1FI illustrative marker scenarios are about 600, 700, 800, 850, 1250 and 1550 ppm, respectively.
d) Temperature changes are expressed as the difference from the period 1980-1999. To express the change relative to the period 1850-1899 add 0.5°C.


1.4.3 Projected Changes in Bangladesh Temperature and Rainfall

Table 3 based on Agrawale (2003) provides the results of validated ensemble model runs applicable for Bangladesh. These indicate that the surface average temperature may respectively increase by 1 and 2.4°C the year 2030 and 2100. The rate of change in temperature is slightly higher in winter than that in monsoon.

On an average, the annual mean rainfall will increase by about 4% and 10% by 2030 and 2100, respectively, compared to current levels. Winter may however, be drier while the monsoon may be wetter by about 5% and 12% by the year 2030 and 2100, respectively. An earlier study predicts that, due to an interplay between increasing temperature and diminishing winter rainfall, aridity will increase in Bangladesh between 2030 to 2075 (Ahmed and Alam, 1998).

Table 3 GCM Projections for Changes in Temperature and Rainfall for Bangladesh

<table>
<thead>
<tr>
<th>Year</th>
<th>Temperature change (°C) mean (Standard deviation)</th>
<th>Rainfall Change (%) mean (Standard deviation)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Annual   DJF   JJA</td>
<td>Annual   DJF   JJA</td>
</tr>
<tr>
<td>Baseline average 2030</td>
<td>1.0 (0.11) 1.1 (0.18) 0.8 (0.16)</td>
<td>3.8 (2.30) -1.2 (12.56) +4.7 (3.17)</td>
</tr>
<tr>
<td>2050</td>
<td>1.4 (0.16) 1.6 (0.26) 1.1 (0.23)</td>
<td>+5.6 (3.33) -1.7 (18.15) +6.8 (4.58)</td>
</tr>
<tr>
<td>2100</td>
<td>2.4 (0.28) 2.7 (0.46) 1.9 (0.40)</td>
<td>+9.7 (5.8) -3.0 (31.6) +11.8 (7.97)</td>
</tr>
</tbody>
</table>

Note: DJF represents the months of December, January and February, usually the winter months. JJA represents the months of June, July and August the monsoon months.

Source: Agrawala et al., 2003
Climate change, as pointed out in the previous chapter, is primarily due to global warming and associated changes in the precipitation patterns over time and space. These changes impact on various natural and physical systems such as hydrological cycles and associated phenomenon such as floods, drought, storm surges, sea surface temperature, biodiversity, glacial and polar ice melts and the like. One particular cause of concern is the sea level rise which may happen due to thermal expansion of sea water, larger volume of oceanic water due to polar ice melt and also some time exacerbated by tectonic dynamics which is not related to climate change as is the case with Bangladesh coast.

The initial changes and their second round impact finally influence upon the human systems of agriculture and food security, health and nutrition, industry and infrastructure, risk and disaster management. Many of these changes reinforce each other and also interact with the initial and second round changes in complex ways. The over-all upshot of all these is that the people may become vulnerable in terms of livelihood, income, consumption and employment due to the instability in the human systems and additional risks of their operation. The impact is likely to be felt by men and women, poor and non-poor, coastal and inland people in different ways and intensity. However, what the exact magnitude of these impacts may be depends upon what happens to GHG emission over time. The IPCC has tried to sum up these likely impacts both upon the physical and the human systems. These are shown in Table 4.

Even if the expected impacts materialize only partly, this is going to be an extremely difficult future for those who would be vulnerable to them. Mostly it is the developing countries that would bear the brunt and among them, the least developed ones and the poorest will suffer most because they would have little fallback position to cushion the adverse impacts on their lives and livelihood.

### Table 4
Probable Impacts of Climate Change on Physical and Human Systems

<table>
<thead>
<tr>
<th>Phenomenon and direction of trend</th>
<th>Likelihood of future trends based on projections for 21st century using SRES scenarios</th>
<th>Examples of major projected impacts by sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over most land areas, warmer and fewer cold days and nights, warmer and more frequent hot days and nights</td>
<td>Virtually certain&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Agriculture, forestry, and ecosystems (WGII 4.4, 5.4)</td>
</tr>
<tr>
<td>Warm spells/heat waves. Frequency increases over most land areas</td>
<td>Very likely</td>
<td>Water resources (WGII 3.4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Human health (WGII 8.2, 8.4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Industry, settlement and society (WGII 7.4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduced energy demand for heating; increased demand for cooling; declining air quality in cities; reduced disruption to transport due to snow, ice; effects on winter tourism</td>
</tr>
</tbody>
</table>

Agriculture, forestry, and ecosystems
- Increased yields in colder environments; decreased yields in warmer environments; increased insect outbreaks
- Reduced yields in warmer regions due to heat stress; increased danger of wildfire
- Increased water demand; water quality problems, e.g., algal blooms
- Increased risk of heat related mortality, especially for the elderly, chronically sick, very young and socially isolated
- Reduced human mortality from decreased cold exposure
- Reduction in quality of life for people in warm areas without appropriate housing; impacts on the elderly, very young and poor

Water resources
- Effects on water resources relying on snowmelt; effects on some water supplies
- Increased water demand; water quality problems, e.g., algal blooms
- Increased risk of heat related mortality, especially for the elderly, chronically sick, very young and socially isolated
- Reduced human mortality from decreased cold exposure
- Reduced energy demand for heating; increased demand for cooling; declining air quality in cities; reduced disruption to transport due to snow, ice; effects on winter tourism

Human health
- Reduced energy demand for heating; increased demand for cooling; declining air quality in cities; reduced disruption to transport due to snow, ice; effects on winter tourism
- Increased water demand; water quality problems, e.g., algal blooms
- Increased risk of heat related mortality, especially for the elderly, chronically sick, very young and socially isolated
- Reduced human mortality from decreased cold exposure
- Reduction in quality of life for people in warm areas without appropriate housing; impacts on the elderly, very young and poor

Industry, settlement and society
- Reduced energy demand for heating; increased demand for cooling; declining air quality in cities; reduced disruption to transport due to snow, ice; effects on winter tourism
- Increased water demand; water quality problems, e.g., algal blooms
- Increased risk of heat related mortality, especially for the elderly, chronically sick, very young and socially isolated
- Reduced human mortality from decreased cold exposure
- Reduction in quality of life for people in warm areas without appropriate housing; impacts on the elderly, very young and poor
2.1 VULNERABILITY DUE TO CLIMATE CHANGE

2.1.1 Vulnerability of Agriculture

According to IPCC findings, due to climate change, crop productivity is projected to increase slightly at mid to high latitudes for local mean temperatures, increases of up to 1-3°C depending on the crop, and then decrease beyond that in some regions. While at lower latitudes, especially seasonally dry and tropical regions, crop productivity is projected to decrease for even small local temperature increases (1-2°C), which would increase the risk of hunger.

In Bangladesh various studies have found that high temperature will reduce the yields of HYVs of Aus 8, Aman 9 and particularly Boro 10 rice throughout Bangladesh. A 60% moisture stress on top of other effects might cause as high as 32% decline in Boro yield. It was suggested by experts that a slight increase of temperature (1-2°C) will contribute positively to the production of wheat but temperature rise higher than that would reduce its yield. Corn could be better option in that scenario.

While estimating the costs or vulnerability, it may be borne in mind that the present climatic variability already imposes a cost. How far Aus and Aman rice may be affected is uncertain, but the potential decline for Boro rice production is likely to be 3% by the 2030s and 5% by the 2050s. Compared to an "optimal" climate simulation—in which highest simulated yields are used, and sector productivity and factor supplies increase smoothly at average long-term growth rates with no inter-annual variations—current climate variability is estimated to reduce long-term rice production by an average 7.4% each year, over the 2005–50 simulation period.

Within the country, regions may vary in their exposure to the potential losses. Production in the southern sub-regions is most vulnerable to climate change. For instance, average losses in the Khulna region have been projected as follows, by the 2050s: -10% for Aus, Aman, and wheat; and -18% for Boro, due in large part to rising sea levels. These production impacts ignore economic responses to these shocks (such as land and labor reallocation and price effects), which may limit or exacerbate some of the effects.

Notes:
(a) See WGI Table 3.7 for further details regarding definitions (http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch3s3-8-5.html).
(b) Warming of the most extreme days and nights each year.
(c) Extreme high sea level depends on average sea level and on regional weather systems. It is defined as the highest 1% of hourly values of observed sea level at a station for a given reference period.
(d) In all scenarios, the projected global average sea level at 2100 is higher than in the reference period. The effect of changes in regional weather systems on sea level extremes has not been assessed. (WGI 10.6)

Model results from other studies indicate that climate change will exacerbate the negative impacts of existing climate variability by further reducing rice production by a projected cumulative total of 80 million tons over 2005–50 (about 3.9% each year, ranging between 3.6% and 4.3%), driven primarily by reduced Boro crop production. Climate change has particularly adverse implications for Boro rice production and will limit its ability to compensate for lost Aus and Aman rice production during extreme climate events. Rice production in the southern regions of Patuakhali and Khulna is particularly vulnerable to them.

2.1.2 Vulnerability of Water Resources

During this century, water supplies stored in glaciers and snow cover are projected to decline, reducing water availability in regions supplied by melt-water from major mountain ranges, where more than one-sixth of the world population lives.

By mid-century, annual average river runoff and water availability are projected to increase by 10-40% at high latitude and in some wet tropical areas, and decrease by 10-30% over some dry regions at mid-latitudes and in the dry tropics, some of which are presently water stressed areas.

According to IPCC Assessment Report 4:
- Glacier melt in the Himalayas is projected to increase flooding, and rock avalanches from destabilized slopes, and to affect water resources within the next two to three decades. This will be followed by decreased river flows as the glaciers recede.
- Freshwater availability in Central, South, East and South-East Asia, particularly in large river basins, is projected to decrease due to climate change which, along with population growth and increasing demand arising from higher standards of living, could adversely affect more than a billion people by the 2050s.

Water related impacts due to climate change and sea level rise are likely to be some of the most critical issues for Bangladesh, not only in relation to coastal and riverine flooding, but also in relation to enhanced possibility of winter (dry season) drought in certain areas. Due to sea level rise and increased flooding in the rivers, backwater effect in the low lying central regions of Bangladesh will experience water stagnation for longer period of time than usually observed.

The above AR4 projections indicate clearly that for Bangladesh, an added major concern is the sharing of water resources in flows of rivers coming down from the Himalayas. While a water-sharing treaty exists between Bangladesh and India, with water-scarcity developing it would be necessary to have new water-sharing rules among the co-sharers of the rivers among China, India, Nepal, Bhutan and Bangladesh. Work should begin for this from now on as its takes long to arrive at such rules as experience has shown.

2.1.3 Vulnerability of the Coastal Ecosystem

Extensive areas along the low-lying coasts are likely to be inundated and millions of people are projected to be affected by flood each year, or permanently displaced, due to sea-level rise around the globe. The densely populated and low-lying areas, where adaptive capacity is relatively low, and which already face other challenges such as tropical storms or local coastal subsistence, are especially at risk. Coasts are projected to be exposed to increasing risks, including coastal erosion, due to climate change and sea-level rise and the effect will be exacerbated by increasing human-induced pressures on coastal areas. The numbers affected will be largest in the mega-deltas of Asia and Africa, while small islands are especially vulnerable.

Four types of coastal vulnerability are expected in Bangladesh’s coastal areas; these are saline water intrusion, drainage congestion, extreme weather events, and changes in
coastal morphology. The combined effect of higher sea level rise, subsidence, silting of estuary branches, and higher river bed levels will impede drainage and gradually increase water logging problems. Increased periods of inundation may hamper agriculture productivity, and will also threaten human health by increasing the potential for water borne disease (NAPA, 2005).

There are predictions for an increase in the probability of cyclone formation from depressions for an increase in 2°C in sea surface temperature (SST) (Ali 1999), but not so much for any shift in the cyclone tracks (Agrawala et al., 2003). The possibility to increase in peak intensities of cyclone may be 5-10% higher. Potential storm surge in the associated precipitation also projected to increase 20-30% than those observed currently. The probability of an increased SST will cause an increase in the formation of low pressure and depressions in the Bay of Bengal, resulting in rough oceanic waves along the coastal zone. However, the magnitudes of such changes are yet uncertain.

Again for sea level rise, the scenarios have so far been largely speculative and not based on any detailed modelling. The net change in sea level is likely to be determined by interplay between sedimentation, compaction, tectonic subsidence, and actual rise in sea level along the coastline of the country. However, in absence of any specific datum, Bangladesh may probably prepare for a sea level rise of 30-100 cm by 2100. This is far higher than that predicted globally by the AR4 as discussed earlier.

2.1.4 Economic Costs of Adverse Impacts
Based on plausible scenarios, the Stern Review has tried to value the above adverse impacts and costs to the global society. The human costs under a world with 3-4 °C rise in average temperature could mean up to 200 million people involuntarily displaced due to flood, drought and rising seas and seriously affect global food production. Warming of 2 °C could leave 15-40% of species facing extinction which may put under peril indirectly existence of others. The economic costs of these physical and human systems impact could be anywhere between 5-20% of world GDP if nothing is done to limit these impacts through adaptation and mitigation. However, the costs of emission limitation could be only up to 1% of GDP. According to the Stern review, each tonne of CO₂ emitted cause damages of at least $85 but such emission can be cut at a cost of less than $25 giving a benefit cost ratio of at least 3:1. What can be done now will have limited effect during the next 40-50 years. But what can be done in the next 10-20 years will have profound beneficial effect on the climate in the second half of the 21st century.

2.1.5 Modeling Economic Costs of Climate Change in Bangladesh
Existing climate variability can have pronounced detrimental economy-wide impacts. Future climate change will exacerbate these negative effects. As shown in Figure 9, the simulated variability is projected to cost the agriculture sector (in discounted terms) US$26 billion in lost agricultural GDP during the 2005–50 period (the gap between “optimal” and “climate variability” scenarios). Through the linkage effects within the economy, existing climate variability is estimated to cost Bangladesh $121 billion in lost national GDP during this period ($3 billion per year). This is 5% below what could be achieved if the climate were “optimal.” As Figure 9 shows, the projected climate change will further exacerbate these negative impacts.

Overall, agricultural GDP is projected to be 3.1% lower each year as a result of climate change ($7.7 billion in lost value-added). Climate change also has broader economy-wide

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12. This part heavily draws upon Asaduzzaman et al (2010)
13. All dollar figures refer to U.S. dollars.
implications. This is estimated to cost Bangladesh $26 billion in total GDP over the 45-year period 2005-50, equivalent to $570 million overall lost each year due to climate change - an average annual 1.15% reduction in total GDP. Average loss in agricultural GDP due to climate change is projected to be a third of the agricultural GDP losses associated with existing climate variability. Uncertainty surrounding global climate models (GCMs) and emission scenarios means that costs may be as high as $1 billion per year in 2005-50, under less optimistic scenarios. Moreover, these economic losses are projected to rise in later years, thus underlining the need to address climate-change related losses in the near term.

These climate risks will also have severe implications for household welfare. For both the climate variability and climate change simulations, around 80% of total losses fall directly on household consumption. Much of the economic losses occur outside of agriculture, particularly in the downstream agriculture processing sectors. This means that both rural and urban households are adversely affected, and per capita consumption is projected to fall for both farm and non-farm households.

The southern and northwest regions are the most vulnerable. These areas are expected to experience the largest decline in rice production due to climate change, for three reasons. First, these regions already experience significant declines in *Aus* and *Aman* rice production due to climate variability, which is expected to worsen under climate change. Second, *Boro* yields are severely affected by changes in mean rainfall and temperature, and by mean shifts in the flood hydrographs. Consequent reductions in *Boro* production limit the ability for these regions to compensate for lost *Aus* and *Aman* rice production during extreme events. The south is also most affected by rising sea levels, which permanently reduce cultivable land. The largest percentage declines in per capita consumption are projected in these regions. Finally, the northwest is also vulnerable, as the lost consumption represents a large fraction of current household consumption. Adaptation measures should therefore focus on these areas.

Much of what would happen and how livelihood would change depends on the complex interplay of many factors which vary from place to place within Bangladesh. An analysis of livelihood changes due to adverse impacts has recently been shown to be different from one agro-ecological zone to another (Centre for Global Change and CSRL, 2009).
As the scientific evidence linking greenhouse gas emissions with the risk of global climate change started to accumulate, and rouse public concern, calls for a global effort started to be raised increasingly loudly. The United Nations General Assembly responded in 1990 by establishing the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (INC).

3.1 GLOBAL EFFORT TO MANAGE CLIMATE CHANGE

The attempt at managing climate change has been made in two basic fronts. First clarifying the extent and impact of climate change as rigorously scientifically as possible. Second, without waiting for the science to be hundred percent certain, go about taking measures which would help the management task easier.

3.1.1 Making Science Clearer

The UN established the Inter-governmental Panel on Climate Change (IPCC) to deal with the science, impacts and response issues to Climate Change. World meteorological Organisation provides the Secretariat services. IPCC so far has prepared 4 reports. The last one was in 2007 and called Assessment Report 4 (AR4). AR4 has made it now almost certain that the climate change is due to mainly human activities related to energy consumption from fossil fuels (coal, oil, natural gas,) as well as deforestation which give rise to CO₂ emission. Further, CH₄ released due to rice cultivation and livestock manure management is also responsible. But the major share is due to CO₂ emission from fossil fuels and that is where much of the global attention is given for mitigating (i.e, reducing emission) climate change.

3.1.2 Global Management Efforts

The United Nations Conference on Environment and Development (UNCED) or the Rio Earth Summit in 1992 established three UN bodies to look after the issues arising out of specific environment concerns. The UN Framework Convention on Climate Change (henceforth UNFCCC or Convention) has the objective to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

3.1.3 Definitions of Adaptation and Mitigation

At this stage, it is necessary to define two terms, adaptation and mitigation. The IPCC defines adaptation as the,

"adjustment in natural or human systems to a new or changing environment. Adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation."
The IPCC defines mitigation as “An anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases.” Mitigation thus tries to address the problem of climate change by limiting the emission of GHGs, the root cause of climate change. It is thus solely a preventive mechanism. Adaptation on the other hand is by and large a post-fact action to limit the adverse impacts or benefit from positive changes due to climate change.

3.2 OBJECTIVE AND PRINCIPLES OF THE UNFCCC

3.2.1 Objective (Article 2 of the Convention)
The ultimate objective of the Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

3.2.2 Principles (Article 3 of the Convention)
The Convention is based on several cardinal principles. These include inter alia, the following:

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

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

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

4. The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change.
5. The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

3.2.3 Structure of UNFCCC - SBSTA and SBI
UNFCCC has 2 subsidiary bodies. One is the Subsidiary Body on Science and Technological Advice (SBSTA) while the other is the Subsidiary Body on Implementation (SBI). The names suggest the basic mandates. These bodies have several other sub-bodies under them.

3.2.4 Work Procedures
All countries which have signed and ratified the Convention (called Parties) meet once a year in a Conference of Parties (COP). The SBI and the SBSTA meet twice a year. One landmark COP was COP 13 in 2007 in Bali, Indonesia. The next important meeting was held in Copenhagen in December 2009 where the implementation procedure of the decisions taken in Bali was to finalized.

It is what has happened in Bali COP 13 and what was expected and actually happened in Copenhagen COP 15 and subsequently in Cancun COP 16 prescribe broadly the real and most challenging part of the global Climate Change management. These will be shortly described. But before that one needs to know about the Kyoto Protocol.

3.3 THE KYOTO PROTOCOL
When governments adopted the UNFCCC in 1992, they recognized that it could be a launching pad for stronger action in the future. By establishing an ongoing process of review, discussion, and information exchange, the Convention makes it possible to adopt additional commitments in response to changes in scientific understanding and in political will.

The first review of the adequacy of developed country commitments on GHG emission reduction was conducted as required at the first session of the Conference of the Parties (COP 1) in Berlin in 1995 which decided that the commitment by developed countries to lower their emissions to 1990 levels by the year 2000 was not sufficient to avoid dangerous anthropogenic interference with the climate system. Accordingly after eight sessions of an ad hoc group set up for the specific purpose of proposing a stronger commitment levels by developed countries, a draft agreement text was sent to COP 3 for final negotiation. The Conference in Kyoto, Japan resulted in a consensus decision (1/CP.3) to adopt a Protocol under which industrialized countries will reduce their combined greenhouse gas emissions globally by the Annex I Parties by at least 5% compared to 1990 levels by the period 2008-2012. This legally binding commitment promises to produce an historic reversal of the upward trend in emissions that started in these countries some 150 years ago.

The Kyoto protocol was opened for signature on 16 March 1998 (see Annex 2.1). It entered into force on 16 February 2005 after Russia ratified it in November 2004. Its purpose was to get a commitment from major green house gas (GHG) emitting countries to lower their emission by 2012 over that in 1990 level by 5.2%. The USA which accounted for more than 36% of emission in 1990 has so far not ratified the protocol. The Protocol came in force when the aggregate emission of ratifying parties came to be 55% or more. The first commitment period ends in 2012. Negotiations are on-going for far more ambitious
GHG emission cuts for the second commitment period of 2013-2017. The Convention created a body called the Ad-hoc Group on Kyoto Protocol (AWG-KP) to oversee the negotiation process under the Kyoto Protocol. In COP 17 at Durban, the Kyoto Protocol entered into second commitment period. More on this will be discussed later.

The Protocol also established three flexible mechanisms to assist Annex I parties in meeting their national targets cost-effectively: an emissions trading system; joint implementation (JI) of emissions-reduction projects between Annex I parties; and the Clean Development Mechanism (CDM), which allows for emissions reduction projects to be implemented in non-Annex I parties (developing countries).

3.4 BALI ACTION PLAN

In 2007, COP 13 in Bali unanimously adopted the Bali Action Plan (BAP) with 4 elements: mitigation, adaptation, finance, and technology development and transfer (see Annex 2.2 for the relevant decision 1/CP13). There is also a shared global vision. These elements are now the subject of continued intense negotiations. The Bali decision established another body called the Ad-hoc Working Group on Long term Cooperative Action (AWG-LCA) for negotiations on these 4 elements and the shared vision.

Negotiations have been in several forms. First the AWG-KP continued attempts at getting further firm commitments from Annex I Parties (i.e., developed country but excluding USA which is not a party to the KP) for the second commitment period of 2013-2017. AWG-LCA, on the other hand, first had several sessions where various climate change issues and their scientific, economic and social dimensions have been examined critically through workshops. Bangladesh made at least 3 formal submissions in these deliberations and workshops.15

Next the ideas that have been received have been first consolidated by the Chair of AWG-LCA into an almost 200 page document and subsequently slightly reduced to another. These documents have been examined in two sessions in Bonn. In Bangkok over 29 September-9 October 2009, formal negotiations have started based on the second as well as the first document. These deliberations have resulted in the so called non-papers which are actually the texts for negotiations on different elements of the Bali Action Plan. Since then till Copenhagen the intense negotiations continued.

3.5 UNFCCC NEGOTIATION PROCESS

3.5.1 The Process

It would be helpful at this stage to state briefly exactly how the negotiation process goes on. First, the Chairs of the ad hoc groups (LCA and KP) from time to time invite the Parties to submit their views on specific issues under negotiation. For AWG-LCA these are the elements of the Bali Action Plan. Second, these views are then consolidated by the Convention secretariat as an aggregate view with items under bracket where there is more than one view on the same issue or sub-issue. The first consolidated text as referred to above has been the result of the synthesis of all such submissions.

The Chairs or Co-chairs usually have informal consultations with Parties and their groups on these texts and non-papers. Groups include, apart from the Annex I and Non-Annex I Parties defined earlier, the G-77 and China, LDCs, the Africa Group, Alliance of Small Island States (AOSIS), and also others (see Annex 3 for description of the Groups). These groups have their own consultations and coordination meetings where they decide their

15. One of these was on insurance as a risk reduction mechanism while another was on the role of agriculture in both adaptation and mitigation which is a major issue under negotiation.
positions on issues under discussion. In the informal discussions called by the Chairs of the formal bodies (AWG-KP or the AWG-LCA), the groups as well as countries state their positions. Once these are stated, later the Chairs or Facilitators of the formal bodies (called Contact Groups) in charge of specific elements under discussion call formal meetings to deliberate on the texts or the non-papers on specific elements. These cycles go on ultimately culminating in a writing group where the agreed outcomes are finalised as texts to be placed in the COP for final decisions by the highest political masters (i.e., the governments). All Parties can take part in all types of deliberations. They must be Government delegates, however, to get access to the halls where the deliberations take place. Representatives of NGOs, media or other groups are not allowed.

3.5.2 Outcomes
The Climate Change negotiation process is an arduous and intensive process. So far the seventeenth Conference of Parties has taken place. While early on the Kyoto Protocol was moved and adopted, it took quite a few years to be operational. On the other hand, there had been rather slow progress until Bali COP 13 (for major highlights of the knowledge generation and negotiations process see Annex 4). COP 15 in Copenhagen was expected to produce substantial progress. It did in a way but also proved to be rather divisive. Cancun COP 16 was the occasion for putting it on track while there appear to be substantial progress in matters related to finance and technology transfer. The COP 17 meetings resulted the establishment of a second commitment period under the Kyoto Protocol, a decision on long-term cooperative action under the Convention, the launch of a new process towards an agreed outcome with legal force applicable to all parties to the Convention, and the operationalization of the Green Climate Fund.

3.6 BANGLADESH POSITION ON DIFFERENT ISSUES/ELEMENTS OF AWG-LCA

Since the Bali Conference of the Parties (COP 13), under the Bali Action Plan (BAP), Parties are negotiating to find agreements on the following issues

- A Shared Vision
- Enhanced adaptation and their means of implementation
- Enhanced mitigation and their means of implementation
- Enhanced technology development and Transfer and
- Enhanced finance

It is to be noted that all the elements begin the term “enhanced” i.e., the actions have to be substantially scaled up from the present situation.

3.6.1 Shared Vision: General Issues
Under the shared vision the idea is to have a common understanding of the global goal that the Parties are trying to arrive at. There is to be an over-all idea regarding all the laments of the BAP as well as capacity-building. Secondly, and probably, more importantly, there is also to be a statement regarding the level of global efforts that would be agreed by Parties for reducing GHGs so that future climate change remains within manageable limits.

G77 and China had been insisting on the following for the future commitment period:

- Emission reduction by developed countries by 40% by 2020 compared to 1990 level (LDCs and SIDS are insisting for a 45% emission reduction.)
- Contain temperature increase below 2°C (LDCs want below 1.5°C)
- Green House Gas concentration to rise by no more than 350 ppm by 2100.
- Green House Gas emission to peak by 2015 or 2020
Compared to emission reduction demand by developing countries, developed countries has so far proposed rather low reduction for second commitment period (beyond 2012). EU has committed a 30% emission [including Land Use Land Use Change and Forestry (LULUCF)] reduction by 2020 from 1990 level:

- Norway committed 40% emission reduction from 1990 level by 2020.
- Japan has committed 25% emission reduction from 1990 level by 2020.
- US has committed only 20% by 2020 compared to 2005 level (which is approximately 6-7% compared to 1990 level, which is not simply acceptable to all the Parties)
- Developed countries are also urging larger/bigger developing countries (such as China, India, Brazil, South Africa, Mexico etc.) to reduce their emission by 15-30% by 2020.

These figures are under revision all the time as Annex I countries commitment changes with the change of government and dynamics of negotiations. In fact the African Group has threatened to leave the negotiation process unless the Annex I countries make a clearer pledge. This has prompted the Chair of AWG-KP to have more informal consultation meetings on the issue. Whether anything will come out of it is still uncertain. If it does not, the whole process may get stalled and without highest level political decisions before or at the COP, the negotiation will yield nothing.

3.6.2 Bangladesh Position on Shared Vision

The Bali Action Plan declared that the developing countries including LDCs have inalienable rights to sustainable development. In subsequent submission to the Convention, Bangladesh operationalised the idea in terms of the achieving of certain types of security which includes inter alia,

a) Food Security;  
b) Energy Security;  
c) Water Security; and  
d) Livelihood security (including right to health) and respect for local community on resource management and extraction

The mitigation, adaptation, technological choice and financing mechanism options to be chosen by Bangladesh should be flexible but without compromising this important principle. Under this rubric, Bangladesh has agreed with the LDC position of 45% reduction by 2020, peaking of emission by 2020 and lowering emission by at least 80% by 2050. All these are expected to achieve the goal of reaching concentration of GHGs in atmosphere of no more than 350 ppm (parts per million) and keeping the temperature rise to below 2°C.

There is an undertone of demand by the developed countries, stated without naming them that certain big or major developing countries are also big polluters at the moment. So, for reduction in future emission, they should also make their contribution. Bangladesh accepts this view but to keep political solidarity with G77 and China, we have not explicitly stated this anywhere.

Under the shared vision, Bangladesh has always insisted that the particular vulnerabilities of the LDCs should be recognised. Also under the shared vision Bangladesh has emphasised the right to survival as well as that of sustainable development.
3.7 ENHANCED ACTION ON ADAPTATION

3.7.1 General Position
The general position of Parties particularly some of the developing country Parties are the following:

- The establishment of an Adaptation Framework, which will be legally binding on the Annex I Parties (financial commitment of Annex I Parties to provide fund for the implementation of Adaptation Framework)
- Compliance mechanism should be measurable, reportable and verifiable (MRV); the allocation of resources by developed countries to support implementation of the adaptation actions in developing countries.
- Further, access to adequate and expedited funding for addressing Climate Change issues continues to remain the most important concern for the LDCs. Current donation-based multilateral funding is clearly not adequate to cover the expected adaptation costs for the LDCs compared to the estimated needs.
- The resources to be committed by the developed countries will have to be stated clearly.

3.7.2 Bangladesh Position
Bangladesh, through the LDC group has made the point that there will have to be a legally binding Adaptation Framework and that the resources to be committed will have to be no less than 1.5% of the GDP of the developed countries because they have a historical responsibility. Also all adaptation funding has to be grants, not loans of any kind. Further, the general idea to which Bangladesh subscribes regarding resource sources is that this will be generally public funding but there may be scopes for private flow of resources. Bangladesh has also called for 70% of the adaptation funding to be earmarked for LDCs. Bangladesh has further called for an International Adaptation Research and Training Centre under the Convention. LDC group have endorsed both the resource and the Centre ideas. But these are yet to be parts of the agreed text although efforts are on-going for their acceptance.

3.8 ENHANCED ACTION ON MITIGATION

3.8.1 The Issues
The Bali Action Plan calls for actions related to mitigation part from funding related issues under seven sub-headings. These are shown as decision numbers by which they are widely known:

- 1b(i) – Nationally appropriate mitigation commitments (NAMC) by developed countries – to be measured, reported and verified (MRV);
- 1b(ii) – Nationally appropriate mitigation actions by developing countries are voluntary – but also to be MRV
- 1b(iii) – emission reduction through forestry related activities– particularly what is called REDD (reducing emission from deforestation and degraded forests) plus
- 1b(iv) – Cooperative sectoral approaches and sectoral actions
- 1b(v) – Market mechanisms for mitigation
- 1b(vi) – Economic and social consequences of mitigation response measures
- 1b(vii) – Catalytic roles of Convention and other bodies and agents including private sector and Civil Society for mitigation.

Much of the debates surround the provision under 1b (ii). Some claim that NAMAs are only those which are supported through technology and finance. Domestic, unsupported actions are not NAMA and hence may not be measured, reported or verified. So far India
had taken the most hard line view on this. Also other big developing country emitters have similar views. However, at present, there seems to be a softening of attitudes.

3.8.2 Bangladesh Position on Mitigation and NAMA
According to the Convention, LDCs are exempt from mitigation. Yet, Bangladesh has always stated that it would take mitigation actions if support in the form of finance and technology is provided. Bangladesh also stated during negotiations that the National Communications (reporting by countries on climate issues regarding national emission, vulnerability, adaptation needs, policy and other interventions) becomes a natural vehicle where whether supported or not, all mitigation actions have to be reported according to standardized methodology. So, this is already measured and reported. Also, as a standardized methodology is used for measurements, it is in a sense verified. This position of Bangladesh seems to be well-appreciated. However, while this formed a part of the view earlier, the latest text in the Cancun Agreement is not explicit on this.

Financing for mitigation is an issue where Bangladesh has stated that scientific investigations have shown that up to 1.5% of GDP of developed countries may be needed for mitigation actions to be supported in the developing countries. Further Bangladesh position regarding nature of funding is that if the technology to be provided is costly, Bangladesh would accept it only if the additional resources to be needed are provided as grants.

3.9 ENHANCED ACTION ON PROVISION OF FINANCE

The general demand from the developing countries including LDCs and supported by Bangladesh are the following:

- Financial resources should be provided through the enhanced financial architecture and be under the authority, guidance, and be fully accountable to the COP. Capacity of Adaptation Fund Board may be enhanced for proper fund management.
- Mandatory contributions from Annex-1 Parties should form the core stream for meeting the cost of adaptation, which may be generated by mechanisms such as International Air Passenger Adaptation Levy (IAPAL) or International Maritime Levy and other new and innovative mechanisms.
- Financial resources to be provided shall be over and above the existing ODA. The proposed financial resources should not be less than 1.5% of the GDP contribution by the Annex-1 and developed country Parties.
- Adaptation fund must be provided on a fully grant basis.
- The level of financing shall be adequate and predictable with direct, simplified and quicker access and shall cover different stages of adaptation from identification of actions to implementation.

Future adaptation activities should also lead to risk reduction. And to that end the financial architecture has to be evolved. Thus the idea is to:

- Provide various insurance mechanisms for reducing risk to crop production; food security and livelihood.
- Set up a rapid financing window for addressing resource needs to cope with the aftermath of extreme climate events, including compensation mechanism.
- Promotion of ecosystem based approach in adaptation programmes to increase resilience to cope with adverse effects of global warming and climate change.
- Support establishment of appropriate institutional mechanism and infrastructures towards preparation and implementation of National Risk Management Plans and early warning systems.
3.10 ENHANCED ACTION ON TECHNOLOGY DEVELOPMENT AND TRANSFER

Neither adaptation nor mitigation may be substantially scaled up unless these are backed by technology which would require both technology transfer and development. In this area at present the ideas (also supported by Bangladesh) are the following:

- The Technology Needs Assessment (TNA) process already initiated by the UNFCCC should be the basis for cooperation in technology related matters for which funds should be provided to implement the findings. The TNA process must also identify the countries where the required technology exists and include consultation meeting to discuss the availability of the needed financial support and the technology on a bilateral and/or multilateral basis.
- To facilitate technology transfer acquisition and application, Parties shall prepare national technology development action plan, establish national boards for technology cooperation and management with clearly defined terms of reference.
- A Multilateral Climate Technology Fund (MTCF) should be established. The establishment of the MTCF must not preclude bilateral cooperation in technology transfer and support.
- Support is to be provided to the developing countries for upgrading indigenous technologies through innovation, creating markets for relevant technologies with the right kind of investment and enabling environment, as well as promoting private sector participation between the developed and developing countries.
- LDCs should be exempted from the obligation of patent protection of climate related technologies for adaptation and mitigation, as required for capacity building and development.
- Development of Climate Change Adaptation and Mitigation Technologies must be kept outside the present IPR regime.
- Annex I Parties should support Innovative Climate Change Research and technology development and make it freely available to the developing country Parties.
- There should be emphasis on joint research and development.
- Patented technologies should be made available free of charge to the LDC/SIDS. Compulsory licensing for already patented technologies can be means for increasing the accessibility to those technologies.

The technology text is now almost on the verge of being agreed upon. Bangladesh has taken strong participation in this text negotiation. Unfortunately, there is some opposition to the provision of patented technology free of cost to LDCs. But a new proposal is being prepared to overcome the issue.

3.11 ENHANCED ACTION ON FINANCE

Bangladesh along with other LDCs as well as developing country parties has made the following demand during negotiations. There are two aspects to the financial mechanism; how much funding and from where and to what purposes and the architecture of the funding mechanism. The first part has already been partly discussed. Here we first note the areas of activity for which the funding may be needed.

3.11.1 Activities to be Funded May Include

- Development of generic guidelines for financial needs assessment for addressing adaptation needs
- Development of generic guidelines for financial needs assessment for addressing mitigation needs
The scale of necessary funding to assist developing countries in mitigation and adaptation to be based on the assessed needs.

Support should be provided, on a continuous basis, to support and enhance national capacity to mainstream adaptation into planning and designing of adaptation activities.

Research and development of adaptation and mitigation technologies

Deployment and diffusion of adaptation technologies

Deployment and diffusion of low-carbon technologies

The institutional architecture may be the following:

- Financial resources should be provided through the enhanced financial architecture and be under the authority, guidance, and be fully accountable to the COP.
- A similar mechanism to that of Adaptation Fund Board may be arranged for the management of funds under new financial architecture. The COP and Board shall establish specialized funds and funding windows under its governance and a mechanism to link these various funds.
- Prioritization of activities for funding and the principles for such prioritization should be firmed up as soon as possible in consultation with Parties.
- Fast track procedures for easy access of funding should be enhanced.
- Be supportive of the existing national institutional arrangements. Preferably adaptation activities and financial resources should be coordinated and managed by a single window/channel as appropriate under respective Parties' National Plans and Programmes.
- Arrangements should be made for cooperation between national banking and financial system and the flow of funds from the international and bilateral systems for refinancing, insurance and other means to help funding national activities.

On the level of funding so far there had not been any firm commitment till the Copenhagen COP 15, but since then there had been some positive development. Similarly, since the Cancun COP 16 there is now a mechanism in place to deliberate on the architecture of the funding mechanism.

In the mean time Bangladesh may work bilaterally with development partners for integrating Climate Change related development projects in the new Plan and also collaborate on firming up projects, financing and technology support as well as generating its own resources for the same.

3.12 NATIONAL RESPONSE

3.12.1 Knowledge Creation

Bangladesh has been taking part vigorously in climate change since the first Conference of Parties. As discussed above in this chapter, progress so far had been somewhat limited and little headway has been made regarding mitigation. This does not mean, however, that Bangladesh had been doing nothing. It had been preparing itself over time in terms of generation of knowledge, been trying to devise action plans as well as take institutional measures to increasingly integrate climate change issues into mainstream planning and development process. Some of the pertinent literature is summarized in Ahmed (2006).

Bangladesh conducted several major studies in the past related to adaptation, vulnerability and mitigation including one of the first energy modeling exercises for raising energy efficiency. It has taken part early on in some of the major global initiatives for LDCs, namely National Adaptation Programme of Action (NAPA) in 2005.
3.12.2 Bali Action Plan and BCCSAP
Subsequently, spurred by the Bali Action Plan, Bangladesh first prepared its Bali submission which together with the experience of NAPA ultimately evolved into the Bangladesh prepared a Climate Change Strategy and Action Plan (BCCSAP) in 2008 which was subsequently revised in 2009 and received full political backing of the Government of its approval and setting up of a dedicated domestic fund for its implementation. The Thrust of the BCCSAP is on sustainable development, poverty reduction and increased well-being of all vulnerable groups in the society.

BCCSAP has identified six broad areas of actions;

- Food security, social protection and health;
- Comprehensive disaster management;
- Infrastructure;
- Research and knowledge management;
- Mitigation and low carbon development and
- Capacity building and institutional strengthening.

3.12.3 Financing BCCSAP
As estimated in the BCCSAP, the initial cost for implementing the BCCSAP will be US$ 500 million but ultimately it will require US$ 5 billion for 5 years to implement the BCCSAP. A thorough financial needs assessment on a sectoral basis may have to undertaken to assess the actual requirement.

The domestic fund under the name of Climate Change Trust Fund (BCCTF) has an endowment of Taka 700 crore or US$ 100 million per year accumulating to a total of US$ 300 million since 2010. There is also a Climate Resilient Fund set up with resources contributed by development partners.

A Climate Change Unit has been established at the Ministry of Environment and Forests to coordinate the implementation of BCCSAP. The government is also contemplating the setting up of a Department of Climate Change as a specialized agency under the Ministry of Environment and Forests.

Bangladesh submitted its Initial National Communication in 1998 and is preparing its Second National Communication. It is also trying to estimate flow of funds and investment in agriculture, energy and water resources. Similarly it is now making a Technology needs Assessment for understanding future technology needs.
COPENHAGEN, CANCUN AND DURBAN: STEPS TOWARDS THE END OF THE BEGINNING

4.1 COPENHAGEN COP 15

The world waited with impatience for positive results during the COP15 in Copenhagen when a final outcome in terms of an agreement on global climate change management along the lines of the Bali Action Plan was expected. It did not turn out to be that. Several roadblocks were there. First, several countries, wanted only one agreement integrating KP and LCA. Developing countries did not agree because while this is true that it does not matter whether the reduction in emission is under KP or under LCS, KP till then and also till now is the only legally binding instrument under the Convention for the purpose. Hence they wanted that the Annex I countries must commit for emission reduction under KP in the second commitment period running from 2012 to 2017. Even if an integrated mechanism evolves, it would subsume the KP commitments.

The other bone of contention was the old one of the USA not being in the fold of KP and not committing enough under LCA for mitigation. In fact, how much to reduce globally by when with the peaking year remains major issues to be thrashed out. Technology and finance also remained fuzzy matters. The Copenhagen Accord (See Annex 5) which was agreed by a group of Heads of Government and State and then presented to the COP for its consideration created an uproar. The process was rejected by many as non-transparent, and against the principle of decisions in COP being Party-driven. Finally the COP decided to take note of it in its deliberations but did not explicitly endorse it.

4.2 THE COPENHAGEN ACCORD

The Accord has several distinguishing features

- Annex I Parties commit to implement individually or jointly the quantified economy wide emissions targets for 2020, to be submitted in the format given in Appendix I by Annex I Parties to the Secretariat by 31 January, 2010 (Some even asked whether Parties are bound to provide the information within the deadline, as this accord is not a legally binding one).
- Non-Annex I Parties to the Convention will implement mitigation actions, including those to be submitted to the Secretariat by non-Annex I Parties in the format given in Appendix II by 31 January 2010.
- Mitigation actions taken by Non-Annex I Parties will be subject to their domestic measurement, reporting and verification. No international measurement will be required.
- LDCs and SIDS may also take mitigation actions voluntarily and on the basis of support.
Deep cuts in global emission are required to hold the increase in global temperature below 2°C. But a case for reexamination of the case of keeping the temperature rise below 1.5°C would be examined by 2016.

Midterm evaluation/assessment of implementation of the Accord to be completed by 2015.

A Copenhagen Green Climate Fund shall be established as an operating entity of the financial mechanism the modalities of which need to be agreed upon

Establish a technology mechanism to accelerate technology development and transfer.

Reduced Emissions from Deforestation and Forest Degradation (REDD) and REDD Plus has been given very high priority in the accord

US$ 30 billion will be provided during 2010-2012.

2010-2012 period money will be spend equally for adaptation and mitigation. LDCs and SIDs will get preferential treatment in the case of adaptation activities.

US$ 100 billion per year will be provided by 2020, will be mobilized jointly (Annex I and Non Annex I), for meaningful mitigation.

The Copenhagen Accord has been both hailed and rejected or partly rejected. Bangladesh associated itself with the Copenhagen Accord. More than 115 Parties associated themselves with the Accord in due course. Thus this remains a basis for further talks and in fact what subsequently happened was that many of these points found their place in the Cancun Agreement.

One of the most contentious issues is that the problem of reduction of GHG emission sufficiently to avoid dangerous consequences for environment, physical world and human system has remained if Copenhagen Accord is not critically examined from that perspective. Unfortunately the Commitment/pledges in the Copenhagen Accord by Annex I Parties will allow temperature rise up to 3.9°C, though Copenhagen Accord mentions of limiting temperature increase below 2°C.

4.3 CANCUN AGREEMENT

4.3.1 Background

Cancun Climate Change Conference was held during 27 Nov – 10 December 2010, which also included a 3 day long high level segment from 8 to 10 December. There was not much expectation from the Cancun Climate Change Conference by the Parties as much talked about previous Copenhagen Climate Change Conference (COP 15) was a failure. Unlike Copenhagen Conference the presences of Heads of Government or Head of States were few which were also in line with a low expectation out of the conference. But previous negotiators narrowed down the gaps during the Bonn and Tianjin sessions during last half of 2010, especially on Adaptation, Finance, Technology Transfer and Capacity Building issues. Despite the lack of expectation, in fact, during Cancun Conference the divergences was narrowed down further and the final push during high level segment ensured an outcome at COP 16 (see Annex - 6).

4.3.2 Achievements of COP 16

4.3.2.1 Adaptation: Several achievements are notable. These are as follows:

- COP 16 decided to establish an Adaptation Committee to promote the implement of enhanced action on adaptation
- It also decided to establish a work programme to address “Loss and Damage” associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change. But the actual operation will be through the SBI.
SBI to agree on activities to be undertaken under the work programme
Countries with fewer than 10 CDM projects are expected to get support to develop CDM Projects. A loan scheme for these countries to support their CDM project was also agreed.

4.3.2.2 Finance: On finance, substantial progress has been made as under:
- Agreement was reached to create a Green Climate Fund, (to be designated as an operating entity of the financial mechanism of the Convention under Article 11).
- World Bank to be the interim trustee of the Green Climate Fund.
- Fast Start Finance - will take care of the pledged US$ 30 billion in the Copenhagen Accord Fast Start Finance for 2010-2012 by Annex I Parties
- Long-term finance - Developed country Parties will mobilize US$ 100 billion per year by 2020 as pledged under the Copenhagen Accord.
- Decided that the Green Climate Fund architecture shall be designed by a Transitional Committee (25 from developing and 15 from developed countries)
- Also decided that the Fund shall be governed by a Board of 24 members comprising an equal number of members from developing and developed countries.
- Also decided that the Fund shall be governed by a Board of 24 members comprising an equal number of members from developing and developed countries.

4.3.2.3 Technology Development and Transfer: These included a decision to establish a technology Mechanism as well as establish a Technology Executive Committee and the Climate Technology Centre and Network. It was also decided that the technology Executive Committee shall implement the technology transfer framework adopted during COP 7 and COP 13.

4.3.3 Bangladesh Delegation at COP 16
Bangladesh played a significant role in the Cancun COP. Bangladesh along with Australia was entrusted by the COP President to resolve differences in financial matters. It organized two media events and one side event. Bangladesh got a seat under LDC constituencies for the newly created 40 member Transitional committee for the Green Climate Fund, which is going to finalize the operational modalities of the new fund, which will place its report at COP 17.

4.4 DURBAN DECISION (COP 17)

4.4.1. Background
The seventeenth Conference of the Parties (COP 17) to the UN Framework Convention on Climate Change (UNFCCC) and the seventh Conference of the Parties serving as the Meeting of Parties to the Kyoto Protocol (COP/MOP 7) of the United Nations Climate Change Conference held in Durban, South Africa from 28 November to 09 December 2011, which finalized the operational modalities of the fund and placed its report at COP17.

In support of these two main bodies, four subsidiary bodies e.g. a) the fourth part of the fourteenth session of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA 14); b) the fourth part of the sixteenth session of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP 16); c) the thirty-fifth sessions of the Subsidiary Body for Implementation (SBI 35) and c) the Subsidiary Body for Scientific and Technological Advice (SBSTA 35) convened meetings during the two-week long conference to come-up with agreed position on different issues assigned to these subsidiary bodies. During the second week of negotiation, a joint COP and COP/ MOP high-level segment also held involving ministers,
special envoys and other senior officials in formal, informal, informal-informal, contact group, spin of group and high level 'indaba' meeting.

Durban Climate Talks focused on several initiatives that have been articulated in AWL-LCA and AWG-KP and institutions that were the subject of decisions in Cancun Agreement. At the outset, expectations were modest with many countries feeling that “operationalizing” the Cancun agreements was all that could be achieved. Others wanted a balanced and interdependent package within a year that resolved second commitment period of the Kyoto Protocol as well as moving towards a new legally-binding instrument/ protocol/treaty and operationalization of the Green Climate Fund by 2012. In this respect, Durban Climate Talks were expected to result in decisions on:

- Operationalization of a technology mechanism to promote clean energy and adaptation-related technologies,
- An adaptation framework to support developing countries and a Green Climate Fund,
- The future of the Kyoto Protocol, bearing in mind that the Protocol’s first commitment period expires in 2012,
- Long-term cooperation under the UNFCCC taken up by the AWG-LCA and COP.

Durban Talks was also expected to focus on a timeline for developing a future framework under the Convention and also on an upcoming review of the adequacy of, and progress towards, limiting average global temperature rise to 2\(^{\circ}\)C. This review is scheduled to take place between 2013 and 2015.

Although a major breakthrough was not expected in Durban, many view the meeting as an important opportunity to deliver both operational decisions and some longer-term signals on the future direction of the process.

4.4.2 Achievements of COP 17

In a night of high drama and further two-days extension of negotiation the COP 17 finally results a positive outcome through setting a specific goal and timeframe of having a new legally binding instrument through participation of all parties. The major achievements of COP 17 are:

4.4.2.1 Durban Platform: Closure of AWG-LCA and opening of AWG-DP: At the eighteenth sessions of the Conference of the Parties the Ad Hoc Working Group on Long-term Cooperative Action under the Convention shall be terminated. In parallel to this, as a matter of urgency, the new Ad Hoc Working Group on the Durban Platform for Enhanced Action (AWG DP) shall start its work in the first half of 2012 and shall report to future sessions of the Conference of the Parties on the progress of its work. The Ad Hoc Working Group on the Durban Platform for Enhanced Action shall complete its work as early as possible but no later than 2015 in order to adopt this protocol, legal instrument or agreed outcome with legal force at the twenty-first session of the Conference of the Parties and for it to come into effect and be implemented from 2020. The new deal aims to ensure “the highest possible mitigation efforts by all Parties”. The other area includes adaptation, finance, technology development and transfer, transparency of action, and support and capacity-building, drawing upon submissions from Parties and relevant technical, social and economic information and expertise; The AWG-DP's mandate is to:

i. Develop a protocol, another legal instrument or an agreed outcome by 2015 with legal force under the Convention applicable to all Parties, through a subsidiary body under the Convention
ii. Adopting a work programme for enhanced action on all Bali elements including capacity-building;

iii. Basing its work on the outcomes of the Review (see later), Fifth Assessment Report of IPCC, submissions of Parties, expert views, workshops (beginning with those in first session in 2012).

**4.4.2.2 KP enters its second commitment period:** The Kyoto Protocol was saved from extinction by a decision to enter a second period of emissions reduction commitments to start in 2013, while the first commitment period will come to an end in December 2012. The Second Commitment period will end either in 2017 or 2020 to be decided by parties under the AWG-KP and the quantified emission reduction commitments to be conveyed to the Convention by May 1, 2012. It's ironic that among the Annex I parties Japan, Russia and Canada have pulled out of a second commitment period from 2013 to 2017, while Australia and New Zealand notified that they may or may not join in. However, the Kyoto Protocol implementation has been significantly and perhaps fatally weakened if the major emitters from the Annex 1 countries do not join the process.

**4.4.2.3 Enhanced Action on Adaptation:** The following progress has been made:

i) Composition of an Adaptation Committee with its 16 members with one representative from LDC and 2 from the Asia group.

ii) A comprehensive mandate of the Adaptation Committee that includes developing a 3-year plan for facilitating enhanced adaptation.

**4.4.2.4 Finance:** On finance, substantial progress has been made as under.

i) Transitional Committee ends its task with a comprehensive suggestion on the operation of Green Climate Fund (GCF) which was established in COP 16. Initial funds have been committed by Korea, Germany and Denmark.

ii) The Standing Committee mandated wide-ranging supervisory role and shall function directly under the COP. This committee comprises with 20 members, two are to be drawn from Asia and one from LDC.

iii) The Standing Committee has been tasked to develop a Work Programme by 2012. Decision has been taken to appoint two co-chairs to facilitate development of Work Programme.

**4.4.2.5 Loss and Damage:** The following progress has been made:

i) Requests Parties to submit Work Programme on Loss and Damage before its COP 18.

ii) Invites Parties, relevant intergovernmental organizations, regional centres and networks, the private sector, civil society and other relevant stakeholders to take into account the three thematic areas while developing Work Programme of Loss and Damage. The thematic areas are:

Thematic area 1: Assessing the risk of loss and damage associated with the adverse effects of climate change and the current knowledge.

Thematic area 2: A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience at all levels.

Thematic area 3: The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change.
4.4.2.6 Technology Development and Transfer: Progress has been made on technology transfer while discussion on the development of climate smart technologies and IPR issues are yet to be concretized.

i) Operationalization of a Climate Technology Centre (CTC) and Network (CTCN) within 2012.

ii) Setting up of CTC and CTCN through bids from Parties and organisations.

4.3.3 Bangladesh Delegation at COP 17
Bangladesh played a lead role raising LDCs issues and concern throughout the negotiation, especially during the high level segments. Bangladesh along with Gambia was selected by the COP President to represent LDCs in the South African diplomatic Indaba process that helped resolving many differences and facilitated the process to a logical end.

Besides, Bangladesh organized two media events and two very high-profile side events—one on Loss and Damage another on Climate Vulnerable Forum (CVF). This is worthy to mention that Bangladesh is the current chair of CVF.

4.5 ROAD TO QATAR

The eighteenth sessions of the Conference of the Parties which is going to be held in Qatar at the end of 2012 expected to start a new phase of negotiation where the Ad Hoc Working Group on Long-term Cooperative Action under the Convention shall be terminated. In the process of the development of new legal instrument negotiation under the Ad Hoc Working Group on Long-term Cooperative Action under the Convention shall extend for one year in order to continue its work and reach the agreed outcome pursuant to decision 1/CP.13 (Bali Action Plan) through decisions adopted by the sixteenth, seventeenth and eighteenth sessions of the Conference of the Parties. Therefore it is important to ensure that all the discussion and decision on BAP are incorporated in the AWG-DP process. Bangladesh should lead the LDCs in making the submission to the AWG-DP. Therefore the upcoming issues for COP 18 and our expectation for the future are;

4.5.1 AWG-LCA

- We have made substantial progress under AWG-LCA over the years especially on adaptation, finance, technology transfer, capacity building, though some of the issues need to be concluded by COP 18, but we have to make substantial progress under mitigation, both for developed countries as well as for developing countries.

- The formation of Ad Hoc Working Group on Durban Platform for Enhanced Action (AWG-DP)

- The issue of Shared vision, which was originally considered to be long term global goal of achieving the global temperature rise within 2°C, global peaking by 2015 and concentration of GHG within 350 ppm. We have to agree on the global goal of substantially reducing the global emission by 2050 and a timeframe for a global peaking of greenhouse gas emissions.

- On Nationally appropriate mitigation commitments or actions by developed countries; the main challenge is - how to achieve the increasing ambition of their economy-wide emission reduction targets and sharing of information on their quantified economy-wide emission reduction targets using a common template.
On Nationally appropriate mitigation actions by developing country Parties; effective reporting of such domestic mitigation actions are most important. In this respect development and enforcement of transparent and effective registry system is of utmost importance.

Parties should consider the issue of Review with utmost care, as our actions taken so far are not reviewed yet and we are not aware of what our actions are leading us to, we need to understand, whether our actions need further fine tuning to achieve the long term global goal.

On National Adaptation Plan (NAP) how to proceed with the preparation of the NAP for LDCs, how to provide financial support to NAP (submission on NAP finance is over 13 February, ideas may be generated from submission by Parties/Annex I Parties)

On technology development and transfer, the issue of selecting the host for technology centre and network through bidding process is on-going (tender has already been floated)

The issue of imposing carbon tax (as part of European Emission Trading System) on aviation flying to EU countries, may be discussed, whether this can be applied globally, excluding LDCs and SIDS (flights originating and destined to LDCs and SIDs will be exempted).

4.5.2 Kyoto Protocol (AWG-KP)

Under AWG-KP we have come to a set of agreements, the main agreement is the continuation of the Kyoto Protocol for its second commitment period.

The second commitment period will begin on 1 January 2013 and end either on 31 December 2017 or 31 December 2020. We have to come to a decision which one of this should be agreed by AWG-KP 17.

Further, proposed amendments to the Kyoto Protocol (what percent of emission reduction will be achieved during the second commitment period, under article 3 paragraph 1.

What would be the base year (1995 or 2000) (base year for first commitment period i.e. 2008-2012 was 1990) (article 3 paragraph 8 of Kyoto Protocol) for calculating the emission reduction commitment.

4.5.3 Important Work that Needs to be Concluded

As per AWG-DP mandate every country has to be involved in mitigation, thus Bangladesh should prepare its NAMA to define and undertake its own mitigation actions.

Decision on second commitment period for KP with emission reduction commitment by Annex I Parties (with adequate NAMA from advanced developing countries).
4.6 BANGLADESH POSITION ON CLIMATE CHANGE NEGOTIATION

Earlier the Bangladesh views on the Bali Action Plan have been detailed. These still remain the general view of Bangladesh. Yet, it would not be out of place here to put them here again in the specific context of the run up to Qatar.

4.6.1 Shared Vision
In line with LDC position, Bangladesh in principle supports 45% emission reduction by 2020 and 85-95% by 2050 by Annex I Parties as well as the emission peaking by 2015. Under the shared vision, Bangladesh has always insisted that the particular vulnerabilities of the LDCs should be recognized; and has emphasized the right to survival as well as that of ensuring sustainable development of the most vulnerable countries.

4.6.2 Mitigation by the Annex I Countries (Under 1b(i) of Bali Action Plan)
Bangladesh calls for in association with other developing countries groups in general and LDCs and SIDs in particular to achieve the following mitigation targets for the future climate change scenario;

- GHG emission reductions by Annex-1 countries by 45% by 2020 and 90-95% by 2050 compared to 1990.
- These emission reductions by Annex-1 countries to be achieved primarily through domestic efforts, but also using market-based mechanisms with a possible quantified limit, 10-15% (in their own economies).
- Peaking of GHG concentration by 2015.
- Keeping temperature rise within well below 2°C, preferably 1.5°C.
- Keeping GHG concentration in the atmosphere below or at 350 PPM by 2100.

4.6.3 Mitigation of the Developing Countries (Under 1b(ii) of Bali Action Plan)
As per Durban decision AWG-LCA will run its course up to the COP 18 in Doha. Its work will be taken up for furthering the negotiations at a higher level by the Ad hoc Working Group on Durban Platform for Enhanced Action (AWG-DP). The AWG-DP is primarily mandated is to achieve a legal instrument or an agreed outcome by 2015 with legal force under the convention applicable to all Parties;

Clearly the global community has decided that every country has to be involved in mitigation. Para 32 of the draft decision of CP/17 encourages developing country Parties who are yet to submit information in nationally appropriate mitigation actions pursuant to decision 1/CP.16, para 50 to do so, noting the need to extend flexibility to small island developing States and least developed country Parties. That means LDCs too will have to do its own mitigation. And we have to prepare NAMA.

We have made little progress on that so far although it is known that there are some discussions going on regarding the development of a low emission strategy with a bilateral development partner. Whatever happens, this must be done in an inclusive manner with the lead role played by the sectors (power, gas, forestry, major consumer groups such as agriculture, industry, transports etc.), which are involved in energy production, distribution and consumption.
In relation to mitigation of the developing countries, Bangladesh views are:

- Developed country Parties to provide enhanced financial, technological and capacity-building support for development and implementation of nationally appropriate mitigation actions of developing country Parties and for enhanced reporting by these Parties;
- Set up a registry to record information on mitigation actions seeking support, and information on the provision of support linking to financial mechanism under convention;
- Domestically supported mitigation actions will be verified domestically in accordance with general guidelines under the Convention and develop general guidelines for domestic verification;
- Supported actions will be measured, reported and varied in accordance with requirements of entity providing support.
- Enhanced reporting in Non-Annex I National Communications on mitigation actions including both supported and unsupported NAMA, and support received in accordance with revised guidelines for Non-Annex I national Communications; SBSTA may develop this revised guidelines;
- Submit GHG inventories and information on mitigation actions through National Communications. LDCs and SID will submit them at their discretion subject to provisions of financial and technical support;

4.6.4 Position on REDD+

In accordance with the implementation of Bali Action Plan and Copenhagen Accord, Bangladesh share a strong commitment to an effective outcome on Reducing Emissions from Deforestation and Forest Degradation in developing countries (REDD) + at the Durban meeting of COP17. In the Cancun agreement as well the Durban negotiation, some positive outcomes were achieved. Bangladesh considers that a successful outcome at Qatar and beyond should address key elements of measurable, reportable and verifiable (MRV) mechanisms for REDD+, establish funding sources to implement REDD+.

In the negotiation process Bangladesh emphasizes REDD schemes to recognize and adhere to the principles of the UN Declaration on the Rights of Indigenous Peoples as well as the human, civil and political rights, including rights of women, local communities and other possibly marginalized groups in forest areas, conservation of biodiversity through sustainable forest management. Bangladesh strongly believes that any REDD mechanism must adopt an overarching policy that has the protection of natural forests as its highest priority thus enhancing forest carbon stocks due to sustainable management of forests. Such protection should encompass the above ground and below ground biomass of natural forests. Biodiversity conservation is a core benefit rather than a co-benefit for mitigating against climate change. The specific position on REDD+ is:

- REDD mechanism should develop in full compliance with the constitutional and legal framework of each country. Bangladesh, meantime, with support from several bilateral donors has initiated several projects to reduce emissions from deforestation and forest degradation, increased carbon sink through the implementation of the sustainable management of forests.
- REDD+ mechanism that accommodates different national circumstances and capabilities and is supported by reliable, adequate, transparent and long term funding to be provided by Annex I Parties, in addition to their current official development
assistance (ODA) commitments. Funding from various other sources can be explored, majority of which should come from public sources. Annex I Parties must not use REDD as an opportunity to avoid making deep and real cuts to domestic emissions from other sources.

- The fast track finance committed under the Copenhagen Accord should cover immediate requirement of the least develop countries for REDD+ preparedness activities particularly capacity building for robust and credible reporting and verification requirements and pilot demonstration activities addressing the drivers of deforestation relevant to their national circumstances with a view to reducing emissions from deforestation and forest degradation and thus enhancing forest carbon stocks due to sustainable management of forests.

- Substantial fund should be for REDD preparedness, national carbon accounting and capacity building
- The primary source of finance for REDD should not be from market mechanism
- NAMA and REDD should be treated separately

4.6.5 Position on Enhanced Action on Adaptation
Bangladesh has been involved in the Cartagena Group where it has presented its views on the Adaptation Framework. These and other related issues are presented here. Three questions have been raised by way of introduction to the issues under Adaptation. These are:

- How can the Adaptation Framework and Work Programme best deliver results for vulnerable countries?
- What should be the primary focus of Adaptation Committee and how will it promote synergies between technology and other mechanisms?
- How do we move forward on the question of loss and damage?

Adaptation Framework and Adaptation Committee in AWG-LCA text

Durban text recalled the decision 1/CP.16, which established the Cancun Adaptation Framework and Adaptation Committee. Paragraph 93 of the Decision of CP 17 on the Outcome of the AWGLCA under the Convention affirms that Adaptation Committee was established to promote the implementation of enhanced action on Adaptation in a coherent manner under the convention, as provided by the Cancun Adaptation Framework.

4.6.6 Adaptation Committee
Para 101 decides that the Adaptation Committee shall comprise 16 members, who shall serve in their personal capacity, and will be nominated by parties in their respective groups or constituencies and elected by the Conference of the Parties, with the aim of achieving a fair, equitable and balanced representation. Para 103 encourages Parties to nominate experts to the Adaptation Committee with a diversity of experience and knowledge relevant to adaptation to climate change, while also taking into account the need to achieve gender balance in accordance with decision 36/CP.7.

There are two main questions here. What should be the Mandate of the Adaptation Committee and how the synergy among finance, technology and other mechanisms be established.
Mandate:
Para 99 of Durban text requests the Adaptation Committee to engage and develop linkages through the Conference of the Parties with all adaptation-related work programmes, bodies and institutions under the Convention, including the Least Developed Countries Expert Group, the Consultative Group of Experts on National Communications from Parties not included in Annex 1 to the Convention, the Technology Executive Committee, the Nairobi Work Programme on impacts, vulnerability and adaptation to climate change, the Work Programme on Loss and Damage and the operating entities of the financial mechanism of the Convention, as appropriate.

However, as stated above the Adaptation Committee will have to work in coordination and collaboration with several other committees. But note that while Adaptation Committee shall advise on issues related to adaptation planning and implementation, as adaptation becomes more and more integrated within the normal development activities, the intellectual inputs that the Committee has to provide will be increasingly complex and the Committee composition will thus have to reflect such demands.

To work on diverse issues and committees, the Adaptation Committee may have two sub-committees, Programme Sub-Committee and the Technology Sub-Committee. These two Sub-committees may work together and decide upon the acceptability of a proposal for adaptation project or programme according to norms established elsewhere within the Convention process.

Modalities
On modalities Bangladesh is of the view that the Adaptation Committee will recommend for (finalise) the allocation of funds as well as screen projects through its own channel or channels under its jurisdiction. It may commission expert panels for helping it to screen projects and if necessary send it as a mission to a country to oversee the project formulation and implementation.

The Finance Committee shall have no vetting power over the choice of the project but it may, if it has any specific observation related to costs, raise these issues with the Adaptation Committee whose decision shall be final.

4.6.7 National Adaptation Plan
The National Adaptation Plan is an idea of better integration of adaptation into the economic development process of an LDC or a developing country than done so far. Guidelines have been prepared for LDC NAPs and submissions have been invited from the LDC Parties.

Bangladesh takes the opportunity to share the view on support to the National Adaptation Plan (NAP) process and few other related issues, which deemed pertinent to the NAP process. Bangladesh expects that Parties, relevant organizations, multilateral and bilateral agencies should take into consideration the following issues while pledging or allocating resources:

1. The scope of NAP is different from the that of NAPA process; the focus of NAPA was short term – urgent and immediate adaptation needs, while the NAP will focus more on medium and long term adaptation needs;
2. Bangladesh considers LDCs will require substantial resources to adequately address adaptation activities/projects in LDCs and NAP should not bear the same fate of NAPA in terms of its implementation.

3. While making pledges or allocating resources, Parties and other entities should consider that future funds to LDCs for adaptation have to be on a grant basis and not in any other form;

4. Funds should not be committed only for the preparation of NAPs. Funds should be available for immediate and urgent implementation of adaptation programmes/projects;

5. In the pretext of inadequacy of funding, countries, who have completed its NAP should not be restrained from accessing funds; such a practice delayed the implementation of NAPA projects. Taking into consideration of expected adequacy of funding in the future there should not be country caps for allocation of funds. Funds should be made available on needs basis considering urgency and immediacy.

6. As NAP preparation process is expected to be more comprehensive, based on sectoral analysis and modeling exercise. It would assess vulnerability and impact of climate change and adopt sectoral approach for identification of projects for their implementation. Therefore, allocation of fund for NAP preparation should not be a flat amount for all countries as the practice has been so far; rather it should be determined on country specific need and requirement. However, for NAP preparation, US$ 500,000 may be fixed as a minimum with a ceiling of up to 1 million per country.

7. While making pledges for providing financial support to NAP preparation, Parties and other Entities and Agencies should keep in mind co-financing option should not be a prerequisite for accessing resources for NAP preparation, which created unnecessary misunderstanding and delays in accessing resources for NAPA implementation.

8. Parties should be allowed receive funds indirect access mode without any strings attached.

9. Countries wishing to access resources through multilateral agencies may be allowed to do so.

4.6.8 Loss and Damage
The decision 1/CP.16 of the Cancun Agreement decided to establish a Work Programme in order to consider approaches to address Loss and Damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity. Recalling the decision, the Subsidiary Body of Implementation (SBI) has been mandated to agree on activities to be undertaken under the Work Programme.

Further on the issue, the draft decision -/CP.17, adopted by COP 17 and CMP 7, invites Parties, relevant intergovernmental organizations, regional centres and networks, the private sector, civil society and other relevant stakeholders to take into account the three
thematic areas when undertaking activities aimed at assisting Parties in enhancing their understanding of, and expertise that will help to address, loss and damage associated with the adverse effects of climate change in developing countries that are particularly vulnerable to the adverse effects of climate change. The thematic areas are:

Thematic area 1: Assessing the risk of loss and damage associated with the adverse effects of climate change and the current knowledge

Thematic area 2: A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience at all levels

Thematic area 3: The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change

In the negotiation process the SBI reaffirmed the need to strengthen international cooperation and expertise to understand and reduce Loss and Damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events.

In fact, conceptualising and estimating loss and damage are extremely important because those indicate the vulnerability of a society to climate change. Several issues may need to be clarified. First, one will have to understand the pathways of the losses and damages from the physical impacts (flood, drought, sea level rise) to human systems (agriculture, health, and livelihood) impacts. The ultimate loss and damage will have to be on the basis of what happens to the human systems and human beings. Understanding the pathways will tell us where to intervene so that the resulting human system vulnerability is minimised or eradicated.

Second, one will have to learn what damages can be added together and which not as the likelihood of double counting is often high. Third, should primary loss and damage be considered or indirect once through linkage effects be also counted. Lower production of food may lower income and employment in food processing industry. Should that be included in the loss or not? And if included, there will have to be consequent adaptation for that.

It is likely that the loss and damages for slow onset (lower crop yields over time) events will be different from quick onset (impacts of cyclones) ones. In fact, it is likely that for slow onset ones, the indirect impacts will be comparatively more important than for quick onset events. On the other hand, the impacts of slow onset events will linger for longer time than the others. And yet, it may be that the people may adjust in their own ways to slow onset events. If so, one of the adaptation activities should be the support to the people to help them in such adjustments.

Finally, the issue of deadweight loss which has been discussed earlier. This certainly is going to be the part of the loss, but will remain uncompensated despite adaptation. How should this be estimated and managed? Who will compensate for the deadweight loss?

There is already certain activities related to these issues and Bangladesh is expected to be one of the case studies. Given adequate opportunities, Bangladesh should take part in this initiative. It should be noted here however, that the nature of expertise for this type of
work depends on the particular area of action. Yet, the issues related to welfare economics becomes important for the final assessment as matters of inter-generational equity, direct and indirect losses etc are important. Very recent debates in the country may also need to be examined.

**Multi-Window Mechanism to Address Loss and Damage**

The concept of a Multi-Window Mechanism\(^\text{16}\) to address Loss and Damage from climate change impacts may also be considered as a basis for future negotiation on the issues. This Multi-Window Mechanism would consist of three inter-dependent components:

1. Insurance
2. Rehabilitation/Compensatory payments
3. Risk Management component

These three components play different and complementary roles and comprise necessary components of an integrated approach to risk reduction, risk transfer and risk management efforts. Taken together, the three components aim to enhance adaptive capacity.

An Insurance Component is needed to help SIDS and LDCs and other particularly vulnerable developing countries manage financial risk from increasingly frequent and severe extreme weather events. Many vulnerable countries either cannot access insurance or find it increasingly difficult to afford commercial insurance to address impacts on national economies and require support in addressing the burden of increasing risks due to climate change.

The biggest challenge to utilize insurance mechanism is involvement of private sector, as private sector is profit driven; public insurance scheme with the help of international support may be an option to operationalise the insurance mechanism. Insurance mechanism can successfully work as risk reduction as well as a substitute mechanism to relief or rehabilitation after the occurrence of the disasters.

Regional workshop as well as in-session workshops may be organized for clarity of our understanding on the issue.

A Rehabilitation/Compensatory Component is needed to address the progressive (slow on-set events) negative impacts of climate change, such as sea level rise, increasing land and sea surface temperatures, and ocean acidification, which result in loss and damage. Even with financial risk management mechanisms in place and efforts to reduce physical risks and exposure, some measure of loss and damage due to climate change impacts will be unavoidable and must be addressed.

A Risk Management Component is needed to support and promote risk assessment and risk management tools and facilitate and inform the Insurance Component and Rehabilitation/Compensatory Component.

The losses and damages may include:

- Economic loss (and where appropriate social impacts)
- Infrastructural damage
- Loss of life and property
- Environmental damage (e.g., damage to coral habitat, salt-water intrusion, loss of fisheries and ecosystem damage)

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\(^\text{16}\) Proposed by AOSIS.
As indicated earlier, it is not yet clear what should be added with what. The Loss and Damage mechanism is still in the conceptualization stage and may further be crystallized through regional consultations, workshops as well as in-session workshops as stated above.

4.6.9 Finance
Agreement already has been reached for Fast Start Finance and Long Term Finance. Also established the Standing Committee under the Conference of the Parties as provided for in decision 1/CP.16, Para 112. The Standing Committee is to develop a Work Programme for its presentation to the Conference of the Parties at its eighteenth session. One of the major aim of the Work Programme would be to contribute to the on-going efforts to scale up the mobilization of climate change finance after 2012; the work programme will analyze options for the mobilization of resources from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources and relevant analytical work on climate related financing needs of developing countries. Bangladesh is engaged in the finance discussion based on the following basic principles:

- The main source of funding through the financial mechanism shall be new and additional financial resources, Public sources of funds of developed countries will be the source of these funds.
- Full implementation of fast-start finance provided by the developed countries as part of their collective commitment to provide new and additional resource approaching USD 30 billion for the period 2010-2012.
- Transparency and reporting on the fulfillment of the fast-start finance commitment.
- Fast track procedures for easy and direct access of funding should be ensured.

4.6.10 Technology Transfer & Development
At COP14 (Poznan, December 2008) the Poznan Strategic Program on Technology Transfer was adopted as a step towards scaling up the level of investment in technology transfer in order to help developing countries address their needs for environmentally sound technologies. Finally, the Copenhagen Accord of December 2009 contains a paragraph on the establishment in the future of a Technology Mechanism

“...to accelerate technology development and transfer in support of action on adaptation and mitigation that will be guided by a country-driven approach and be based on national circumstances and priorities.”

Cancun Agreement agreed to establish a Technology Mechanism and also decided to establish the Technology Executive Committee and the Climate Technology Centre (CTC) and Network, while the Durban text notes the establishment of a Technology Executive Committee and a Climate Technology Center and Network in the Cancun Agreements, and their respective function. In Durban it has been agreed to finalize arrangements to make the technology mechanism fully operational in 2012.

Para 136 decides that the selection process for the host of the CTC shall be launched upon the conclusion of the Seventeenth session of Conference. In this context Para 137 requests the secretariat to prepare and issue the call for proposals in accordance with this decision by January 16, 2012 and invite interested organizations including consortia of organizations, to submit their proposals by 16 March 2012. Bangladesh should response to the call to host Climate Technology Center, especially for development and diffusion of adaptation technologies.

Underlining the importance of nationally determined technology needs, based on national circumstances and priorities, the setting of appropriate enabling environment to scale up the development and transfer of technologies in developing countries, Bangladesh defines its position on technology transfer are:
LDCs should be provided with necessary financial assistance and technology cooperation in upgrading indigenous technologies through innovation, creating markets for relevant technologies with the right kind of investment and enabling environment;

Support is to be provided to the developing countries for upgrading indigenous technologies through innovation, creating markets for relevant technologies with the right kind of investment and enabling environment, as well as promoting private sector participation between the developed and developing countries.

LDCs should be exempted from the obligation of patent protection of climate related technologies for adaptation and mitigation technology, as required for capacity building and development. A mechanism should be developed for such exemption.

As far as possible, support should be given for capacity building for joint research on and development of technology.

Bangladesh may also support the establishment of the technology mechanism to supervise overall technology development and transfer issues.

LDCs, SIDS, Africa should be provided with necessary financial and technological resources to assist in their efforts to upgrade indigenous technologies through innovation and properly putting them to use as well as to acquire necessary technologies from appropriate outside sources.

International public research organisations should be supported by Annex-I Parties for innovative climate change research and technology development, making the outcome available to LDCs, SIDS, and vulnerable countries in Africa at low or little cost.

The Technology Needs Assessment (TNA) process already initiated by the UNFCCC must also identify the countries where the required technology exists and include consultation meeting to discuss the availability of the needed financial support and the technology on a bilateral and/or multilateral basis.

The Technology Mechanism may establish virtual technology bank for information on technology and also hold technology fairs periodically so that clients and technology suppliers can understand each other’s needs and procure them as quickly as possible.

4.6.11 Review
The review is the review of the adequacy of the long term global goal of mitigation, adaptation and other supportive matters. It is a kind of self evaluation of the effectiveness of the implementation of the decisions of the COP over time. The first Review shall be over the years 2013 to 2015. Thus it will be an input in deciding the level of ambition in mitigation as well as other related matters under the Convention bodies. There is likely to be a Review Expert Group and Bangladesh should explore the opportunities to be involved to the Review Expert Group.
The earlier chapters have discussed how the whole problem of climate change has arisen, its root causes and international and national response by Bangladesh. A long way has been traversed in search of the Holy Grail of a legally binding mechanism (treaty, protocol, agreement) and yet it has remained outside the grasp. It is not that no progress has been made. As previous chapters have made it clear even without major global agreement, many countries have lowered their GHG emission. But this is not enough. While progress has been made in areas of finance and technology transfer and development, all will ultimately come to naught if full identity of views on mitigation and shared vision cannot be achieved.

The challenge of the road to Qatar is still strewn with many road blocks particularly setting mitigation targets for the KP for its second commitment period as well as the Annex I and major developing country promises of cut down on GHG emission under LCA-DP process. The NAMA should get high level of support along with adaptation and the Convention, like Technology Needs Assessment, initiate NAMA Needs Assessment for investment.

When these are all said and done, there will still remain the issue of implementation of many of the work plans and their translation in terms of national activities. It appears that the issues of institution-building and human skill information has been neglected rather both in the international and national thinking. It may so happen that the problems would be identified, money and technology will be available but we would not know how to go about it. One of the major challenges should therefore be to put in place longer-term capacity building issues in the agenda of negotiations.

A very serious issue appears to have been neglected which relates to the vulnerable sectors. The one-footnote description of vulnerable sectors will not do. Agriculture particularly has been somewhat discussed in mitigation bit not so much in relation to food security as has been pointed out in the previous chapter. Ways have to be found to adequately include them in the negotiation process. One way of doing that may be to elaborate some of the issues in the annexes to the main text. Loss and damage and risk management issues should get more attention as pointed out in the earlier chapter.

Only a limited time is available for proactive action. Bangladesh is ready to do everything within its means to realize the safety of human kind from the precipice ahead.
### Annex 1

**Table 1.1: Total aggregate anthropogenic emissions of GHGs including LULUCF 1990 – 2006**

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Number of Parties showing decrease in emissions by more than 1 per cent: 24

Number of Parties showing change in emissions within 1 per cent: 0

Number of Parties showing increase in emissions by more than 1 per cent: 17


b. Emission estimates of the European Community are reported separately from those of its member States.

c. The 2000, 2005 and 2006 data for Portugal differ slightly from those in the common reporting format tables because of an inconsistency in data for F-gases in the XML file that was submitted to the secretariat and has been used for processing data.

* A Party undergoing the process of transition to a market economy.

** Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Annex I Parties.
**Table 1.2:** Total aggregate anthropogenic emissions of CO₂ including LULUCF 1990 – 2006

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Number of Parties showing change in emissions within 1 per cent: 3

Number of Parties showing increase in emissions by more than 1 per cent: 18


b. Emission estimates of the European Community are reported separately from those of its member States.

*A Party undergoing the process of transition to a market economy.

**Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Annex I Parties.
## Table 1.3: Twenty Most CO₂ Emitting Countries (2009)

<table>
<thead>
<tr>
<th>Sl.</th>
<th>Country</th>
<th>Total Emissions (Million Metric Tons of CO₂)</th>
<th>Metric Tons of CO₂ per Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>China</td>
<td>7706.82</td>
<td>5.82</td>
</tr>
<tr>
<td>2.</td>
<td>United States</td>
<td>5424.52</td>
<td>17.66</td>
</tr>
<tr>
<td>3.</td>
<td>India</td>
<td>1591.12</td>
<td>1.37</td>
</tr>
<tr>
<td>4.</td>
<td>Russia</td>
<td>1556.66</td>
<td>11.11</td>
</tr>
<tr>
<td>5.</td>
<td>Japan</td>
<td>1097.96</td>
<td>8.64</td>
</tr>
<tr>
<td>6.</td>
<td>Germany</td>
<td>765.56</td>
<td>9.29</td>
</tr>
<tr>
<td>7.</td>
<td>Canada</td>
<td>540.96</td>
<td>16.15</td>
</tr>
<tr>
<td>8.</td>
<td>Iran</td>
<td>528.60</td>
<td>6.95</td>
</tr>
<tr>
<td>9.</td>
<td>South Korea</td>
<td>528.13</td>
<td>10.88</td>
</tr>
<tr>
<td>10.</td>
<td>United Kingdom</td>
<td>519.94</td>
<td>8.35</td>
</tr>
<tr>
<td>12.</td>
<td>Mexico</td>
<td>443.61</td>
<td>3.98</td>
</tr>
<tr>
<td>13.</td>
<td>Saudi Arabia</td>
<td>438.24</td>
<td>17.30</td>
</tr>
<tr>
<td>14.</td>
<td>Brazil</td>
<td>425.16</td>
<td>2.13</td>
</tr>
<tr>
<td>15.</td>
<td>Australia</td>
<td>417.68</td>
<td>19.64</td>
</tr>
<tr>
<td>16.</td>
<td>Indonesia</td>
<td>414.94</td>
<td>1.72</td>
</tr>
<tr>
<td>17.</td>
<td>Italy</td>
<td>407.86</td>
<td>7.01</td>
</tr>
<tr>
<td>18.</td>
<td>France</td>
<td>396.69</td>
<td>6.29</td>
</tr>
<tr>
<td>19.</td>
<td>Spain</td>
<td>329.85</td>
<td>7.12</td>
</tr>
<tr>
<td>20.</td>
<td>Poland</td>
<td>285.78</td>
<td>7.42</td>
</tr>
</tbody>
</table>

Source: //www.eia.gov
The Parties to this Protocol,

Being Parties to the United Nations Framework Convention on Climate Change, hereinafter referred to as “the Convention”,

In pursuit of the ultimate objective of the Convention as stated in its Article 2, Recalling the provisions of the Convention,

Being guided by Article 3 of the Convention,

Pursuant to the Berlin Mandate adopted by decision 1/CP.1 of the Conference of the Parties to the Convention at its first session,

Have agreed as follows:

Article 1

For the purposes of this Protocol, the definitions contained in Article 1 of the Convention shall apply. In addition:

1. “Conference of the Parties” means the Conference of the Parties to the Convention.


5. “Parties present and voting” means Parties present and casting an affirmative or negative vote.

6. “Party” means, unless the context otherwise indicates, a Party to this Protocol.

7. “Party included in Annex I” means a Party included in Annex I to the Convention, as may be amended, or a Party which has made a notification under Article 4, paragraph 2 (g), of the Convention.

Article 2

1. Each Party included in Annex I, in achieving its quantified emission limitation and reduction commitments under Article 3, in order to promote sustainable development, shall:

(a) Implement and/or further elaborate policies and measures in accordance with its national circumstances, such as:

(i) Enhancement of energy efficiency in relevant sectors of the national economy;

(ii) Protection and enhancement of sinks and reservoirs of greenhouse gases not controlled by the Montreal Protocol, taking into account its commitments under relevant international environmental agreements; promotion of sustainable forest management practices, afforestation and reforestation;

(iii) Promotion of sustainable forms of agriculture in light of climate change considerations;
(iv) Research on, and promotion, development and increased use of, new and renewable forms of energy, of carbon dioxide sequestration technologies and of advanced and innovative environmentally sound technologies;

(v) Progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse gas emitting sectors that run counter to the objective of the Convention and application of market instruments;

(vi) Encouragement of appropriate reforms in relevant sectors aimed at promoting policies and measures which limit or reduce emissions of greenhouse gases not controlled by the Montreal Protocol;

(vii) Measures to limit and/or reduce emissions of greenhouse gases not controlled by the Montreal Protocol in the transport sector;

(viii) Limitation and/or reduction of methane emissions through recovery and use in waste management, as well as in the production, transport and distribution of energy;

(b) Cooperate with other such Parties to enhance the individual and combined effectiveness of their policies and measures adopted under this Article, pursuant to Article 4, paragraph 2 (e) (i), of the Convention. To this end, these Parties shall take steps to share their experience and exchange information on such policies and measures, including developing ways of improving their comparability, transparency and effectiveness. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session or as soon as practicable thereafter, consider ways to facilitate such cooperation, taking into account all relevant information.

2. The Parties included in Annex I shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization and the International Maritime Organization, respectively.

3. The Parties included in Annex I shall strive to implement policies and measures under this Article in such a way as to minimize adverse effects, including the adverse effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties, especially developing country Parties and in particular those identified in Article 4, paragraphs 8 and 9, of the Convention, taking into account Article 3 of the Convention. The Conference of the Parties serving as the meeting of the Parties to this Protocol may take further action, as appropriate, to promote the implementation of the provisions of this paragraph.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol, if it decides that it would be beneficial to coordinate any of the policies and measures in paragraph 1 (a) above, taking into account different national circumstances and potential effects, shall consider ways and means to elaborate the coordination of such policies and measures.

Article 3

1. The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.

2. Each Party included in Annex I shall, by 2005, have made demonstrable progress in achieving its commitments under this Protocol.

3. The net changes in greenhouse gas emissions by sources and removals by sinks resulting from direct human-induced land-use change and forestry activities, limited to afforestation, reforestation and deforestation since 1990, measured as verifiable changes in carbon stocks in each commitment period, shall be used to meet the commitments under this Article of each Party included in Annex I. The greenhouse gas emissions by sources and removals by sinks associated with those activities shall be reported in a transparent and verifiable manner and reviewed in accordance with Articles 7 and 8.
4. Prior to the first session of the Conference of the Parties serving as the meeting of the Parties to this Protocol, each Party included in Annex I shall provide, for consideration by the Subsidiary Body for Scientific and Technological Advice, data to establish its level of carbon stocks in 1990 and to enable an estimate to be made of its changes in carbon stocks in subsequent years. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session or as soon as practicable thereafter, decide upon modalities, rules and guidelines as to how, and which, additional human-induced activities related to changes in greenhouse gas emissions by sources and removals by sinks in the agricultural soils and the land-use change and forestry categories shall be added to, or subtracted from, the assigned amounts for Parties included in Annex I, taking into account uncertainties, transparency in reporting, verifiability, the methodological work of the Intergovernmental Panel on Climate Change, the advice provided by the Subsidiary Body for Scientific and Technological Advice in accordance with Article 5 and the decisions of the Conference of the Parties. Such a decision shall apply in the second and subsequent commitment periods. A Party may choose to apply such a decision on these additional human-induced activities for its first commitment period, provided that these activities have taken place since 1990.

5. The Parties included in Annex I undergoing the process of transition to a market economy whose base year or period was established pursuant to decision 9/CP.2 of the Conference of the Parties at its second session shall use that base year or period for the implementation of their commitments under this Article. Any other Party included in Annex I undergoing the process of transition to a market economy which has not yet submitted its first national communication under Article 12 of the Convention may also notify the Conference of the Parties serving as the meeting of the Parties to this Protocol that it intends to use an historical base year or period other than 1990 for the implementation of its commitments under this Article. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall decide on the acceptance of such notification.

6. Taking into account Article 4, paragraph 6, of the Convention, in the implementation of their commitments under this Protocol other than those under this Article, a certain degree of flexibility shall be allowed by the Conference of the Parties serving as the meeting of the Parties to this Protocol to the Parties included in Annex I undergoing the process of transition to a market economy.

7. In the first quantified emission limitation and reduction commitment period, from 2008 to 2012, the assigned amount for each Party included in Annex I shall be equal to the percentage inscribed for it in Annex B of its aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A in 1990, or the base year or period determined in accordance with paragraph 5 above, multiplied by five. Those Parties included in Annex I for whom land-use change and forestry constituted a net source of greenhouse gas emissions in 1990 shall include in their 1990 emissions base year or period the aggregate anthropogenic carbon dioxide equivalent emissions by sources minus removals by sinks in 1990 from land-use change for the purposes of calculating their assigned amount.

8. Any Party included in Annex I may use 1995 as its base year for hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride, for the purposes of the calculation referred to in paragraph 7 above.

9. Commitments for subsequent periods for Parties included in Annex I shall be established in amendments to Annex B to this Protocol, which shall be adopted in accordance with the provisions of Article 21, paragraph 7. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall initiate the consideration of such commitments at least seven years before the end of the first commitment period referred to in paragraph 1 above.

10. Any emission reduction units, or any part of an assigned amount, which a Party acquires from another Party in accordance with the provisions of Article 6 or of Article 17 shall be added to the assigned amount for the acquiring Party.

11. Any emission reduction units, or any part of an assigned amount, which a Party transfers to another Party in accordance with the provisions of Article 6 or of Article 17 shall be subtracted from the assigned amount for the transferring Party.
12. Any certified emission reductions which a Party acquires from another Party in accordance with the provisions of Article 12 shall be added to the assigned amount for the acquiring Party.

13. If the emissions of a Party included in Annex I in a commitment period are less than its assigned amount under this Article, this difference shall, on request of that Party, be added to the assigned amount for that Party for subsequent commitment periods.

14. Each Party included in Annex I shall strive to implement the commitments mentioned in paragraph 1 above in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention. In line with relevant decisions of the Conference of the Parties on the implementation of those paragraphs, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, consider what actions are necessary to minimize the adverse effects of climate change and/or the impacts of response measures on Parties referred to in those paragraphs. Among the issues to be considered shall be the establishment of funding, insurance and transfer of technology.

Article 4

1. Any Parties included in Annex I that have reached an agreement to fulfil their commitments under Article 3 jointly, shall be deemed to have met those commitments provided that their total combined aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of Article 3. The respective emission level allocated to each of the Parties to the agreement shall be set out in that agreement.

2. The Parties to any such agreement shall notify the secretariat of the terms of the agreement on the date of deposit of their instruments of ratification, acceptance or approval of this Protocol, or accession thereto. The secretariat shall in turn inform the Parties and signatories to the Convention of the terms of the agreement.

3. Any such agreement shall remain in operation for the duration of the commitment period specified in Article 3, paragraph 7.

4. If Parties acting jointly do so in the framework of, and together with, a regional economic integration organization, any alteration in the composition of the organization after adoption of this Protocol shall not affect existing commitments under this Protocol. Any alteration in the composition of the organization shall only apply for the purposes of those commitments under Article 3 that are adopted subsequent to that alteration.

5. In the event of failure by the Parties to such an agreement to achieve their total combined level of emission reductions, each Party to that agreement shall be responsible for its own level of emissions set out in the agreement.

6. If Parties acting jointly do so in the framework of, and together with, a regional economic integration organization which is itself a Party to this Protocol, each member State of that regional economic integration organization individually, and together with the regional economic integration organization acting in accordance with Article 24, shall, in the event of failure to achieve the total combined level of emission reductions, be responsible for its level of emissions as notified in accordance with this Article.

Article 5

1. Each Party included in Annex I shall have in place, no later than one year prior to the start of the first commitment period, a national system for the estimation of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol. Guidelines for such national systems, which shall incorporate the methodologies specified in paragraph 2 below, shall be decided upon by the Conference of the Parties serving as the meeting of the Parties to this Protocol at its first session.
2. Methodologies for estimating anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol shall be those accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties at its third session. Where such methodologies are not used, appropriate adjustments shall be applied according to methodologies agreed upon by the Conference of the Parties serving as the meeting of the Parties to this Protocol at its first session. Based on the work of, *inter alia*, the Intergovernmental Panel on Climate Change and advice provided by the Subsidiary Body for Scientific and Technological Advice, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall regularly review and, as appropriate, revise such methodologies and adjustments, taking fully into account any relevant decisions by the Conference of the Parties.

Any revision to methodologies or adjustments shall be used only for the purposes of ascertaining compliance with commitments under Article 3 in respect of any commitment period adopted subsequent to that revision.

3. The global warming potentials used to calculate the carbon dioxide equivalence of anthropogenic emissions by sources and removals by sinks of greenhouse gases listed in Annex A shall be those accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties at its third session. Based on the work of, *inter alia*, the Intergovernmental Panel on Climate Change and advice provided by the Subsidiary Body for Scientific and Technological Advice, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall regularly review and, as appropriate, revise the global warming potential of each such greenhouse gas, taking fully into account any relevant decisions by the Conference of the Parties. Any revision to a global warming potential shall apply only to commitments under Article 3 in respect of any commitment period adopted subsequent to that revision.

**Article 6**

1. For the purpose of meeting its commitments under Article 3, any Party included in Annex I may transfer to, or acquire from, any other such Party emission reduction units resulting from projects aimed at reducing anthropogenic emissions by sources or enhancing anthropogenic removals by sinks of greenhouse gases in any sector of the economy, provided that:

   (a) Any such project has the approval of the Parties involved;
   
   (b) Any such project provides a reduction in emissions by sources, or an enhancement of removals by sinks, that is additional to any that would otherwise occur;
   
   (c) It does not acquire any emission reduction units if it is not in compliance with its obligations under Articles 5 and 7; and
   
   (d) The acquisition of emission reduction units shall be supplemental to domestic actions for the purposes of meeting commitments under Article 3.

2. The Conference of the Parties serving as the meeting of the Parties to this Protocol may, at its first session or as soon as practicable thereafter, further elaborate guidelines for the implementation of this Article, including for verification and reporting.

3. A Party included in Annex I may authorize legal entities to participate, under its responsibility, in actions leading to the generation, transfer or acquisition under this Article of emission reduction units.

4. If a question of implementation by a Party included in Annex I of the requirements referred to in this Article is identified in accordance with the relevant provisions of Article 8, transfers and acquisitions of emission reduction units may continue to be made after the question has been identified, provided that any such units may not be used by a Party to meet its commitments under Article 3 until any issue of compliance is resolved.

**Article 7**

1. Each Party included in Annex I shall incorporate in its annual inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol, submitted in accordance with the relevant decisions of the Conference of the Parties, the necessary supplementary information for the purposes of ensuring compliance with Article 3, to be determined in accordance with paragraph 4 below.
2. Each Party included in Annex I shall incorporate in its national communication, submitted under Article 12 of the Convention, the supplementary information necessary to demonstrate compliance with its commitments under this Protocol, to be determined in accordance with paragraph 4 below.

3. Each Party included in Annex I shall submit the information required under paragraph 1 above annually, beginning with the first inventory due under the Convention for the first year of the commitment period after this Protocol has entered into force for that Party. Each such Party shall submit the information required under paragraph 2 above as part of the first national communication due under the Convention after this Protocol has entered into force for it and after the adoption of guidelines as provided for in paragraph 4 below. The frequency of subsequent submission of information required under this Article shall be determined by the Conference of the Parties serving as the meeting of the Parties to this Protocol, taking into account any timetable for the submission of national communications decided upon by the Conference of the Parties.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall adopt at its first session, and review periodically thereafter, guidelines for the preparation of the information required under this Article, taking into account guidelines for the preparation of national communications by Parties included in Annex I adopted by the Conference of the Parties. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall also, prior to the first commitment period, decide upon modalities for the accounting of assigned amounts.

Article 8

1. The information submitted under Article 7 by each Party included in Annex I shall be reviewed by expert review teams pursuant to the relevant decisions of the Conference of the Parties and in accordance with guidelines adopted for this purpose by the Conference of the Parties serving as the meeting of the Parties to this Protocol under paragraph 4 below. The information submitted under Article 7, paragraph 1, by each Party included in Annex I shall be reviewed as part of the annual compilation and accounting of emissions inventories and assigned amounts. Additionally, the information submitted under Article 7, paragraph 2, by each Party included in Annex I shall be reviewed as part of the review of communications.

2. Expert review teams shall be coordinated by the secretariat and shall be composed of experts selected from those nominated by Parties to the Convention and, as appropriate, by intergovernmental organizations, in accordance with guidance provided for this purpose by the Conference of the Parties.

3. The review process shall provide a thorough and comprehensive technical assessment of all aspects of the implementation by a Party of this Protocol. The expert review teams shall prepare a report to the Conference of the Parties serving as the meeting of the Parties to this Protocol, assessing the implementation of the commitments of the Party and identifying any potential problems in, and factors influencing, the fulfilment of commitments. Such reports shall be circulated by the secretariat to all Parties to the Convention. The secretariat shall list those questions of implementation indicated in such reports for further consideration by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall adopt at its first session, and review periodically thereafter, guidelines for the review of implementation of this Protocol by expert review teams taking into account the relevant decisions of the Conference of the Parties.

5. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, with the assistance of the Subsidiary Body for Implementation and, as appropriate, the Subsidiary Body for Scientific and Technological Advice, consider:

(a) The information submitted by Parties under Article 7 and the reports of the expert reviews thereon conducted under this Article; and

(b) Those questions of implementation listed by the secretariat under paragraph 3 above, as well as any questions raised by Parties.
6. Pursuant to its consideration of the information referred to in paragraph 5 above, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall take decisions on any matter required for the implementation of this Protocol.

**Article 9**

1. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall periodically review this Protocol in the light of the best available scientific information and assessments on climate change and its impacts, as well as relevant technical, social and economic information. Such reviews shall be coordinated with pertinent reviews under the Convention, in particular those required by Article 4, paragraph 2 (d), and Article 7, paragraph 2 (a), of the Convention. Based on these reviews, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall take appropriate action.

2. The first review shall take place at the second session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. Further reviews shall take place at regular intervals and in a timely manner.

**Article 10**

All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, without introducing any new commitments for Parties not included in Annex I, but reaffirming existing commitments under Article 4, paragraph 1, of the Convention, and continuing to advance the implementation of these commitments in order to achieve sustainable development, taking into account Article 4, paragraphs 3, 5 and 7, of the Convention, shall:

(a) Formulate, where relevant and to the extent possible, cost-effective national and, where appropriate, regional programmes to improve the quality of local emission factors, activity data and/or models which reflect the socio-economic conditions of each Party for the preparation and periodic updating of national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties, and consistent with the guidelines for the preparation of national communications adopted by the Conference of the Parties;

(b) Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change and measures to facilitate adequate adaptation to climate change:

(i) Such programmes would, inter alia, concern the energy, transport and industry sectors as well as agriculture, forestry and waste management. Furthermore, adaptation technologies and methods for improving spatial planning would improve adaptation to climate change; and

(ii) Parties included in Annex I shall submit information on action under this Protocol, including national programmes, in accordance with Article 7; and other Parties shall seek to include in their national communications, as appropriate, information on programmes which contain measures that the Party believes contribute to addressing climate change and its adverse impacts, including the abatement of increases in greenhouse gas emissions, and enhancement of and removals by sinks, capacity building and adaptation measures;

(c) Cooperate in the promotion of effective modalities for the development, application and diffusion of, and take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies, know-how, practices and processes pertinent to climate change, in particular to developing countries, including the formulation of policies and programmes for the effective transfer of environmentally sound technologies that are publicly owned or in the public domain and the creation of an enabling environment for the private sector, to promote and enhance the transfer of, and access to, environmentally sound technologies;
(d) Cooperate in scientific and technical research and promote the maintenance and the development of systematic observation systems and development of data archives to reduce uncertainties related to the climate system, the adverse impacts of climate change and the economic and social consequences of various response strategies, and promote the development and strengthening of endogenous capacities and capabilities to participate in international and intergovernmental efforts, programmes and networks on research and systematic observation, taking into account Article 5 of the Convention;

(e) Cooperate in and promote at the international level, and, where appropriate, using existing bodies, the development and implementation of education and training programmes, including the strengthening of national capacity building, in particular human and institutional capacities and the exchange or secondment of personnel to train experts in this field, in particular for developing countries, and facilitate at the national level public awareness of, and public access to information on, climate change. Suitable modalities should be developed to implement these activities through the relevant bodies of the Convention, taking into account Article 6 of the Convention;

(f) Include in their national communications information on programmes and activities undertaken pursuant to this Article in accordance with relevant decisions of the Conference of the Parties; and

(g) Give full consideration, in implementing the commitments under this Article, to Article 4, paragraph 8, of the Convention.

**Article 11**

1. In the implementation of Article 10, Parties shall take into account the provisions of Article 4, paragraphs 4, 5, 7, 8 and 9, of the Convention.

2. In the context of the implementation of Article 4, paragraph 1, of the Convention, in accordance with the provisions of Article 4, paragraph 3, and Article 11 of the Convention, and through the entity or entities entrusted with the operation of the financial mechanism of the Convention, the developed country Parties and other developed Parties included in Annex II to the Convention shall:

   (a) Provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in advancing the implementation of existing commitments under Article 4, paragraph 1 (a), of the Convention that are covered in Article 10, subparagraph (a); and

   (b) Also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of advancing the implementation of existing commitments under Article 4, paragraph 1, of the Convention that are covered by Article 10 and that are agreed between a developing country Party and the international entity or entities referred to in Article 11 of the Convention, in accordance with that Article.

The implementation of these existing commitments shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among developed country Parties. The guidance to the entity or entities entrusted with the operation of the financial mechanism of the Convention in relevant decisions of the Conference of the Parties, including those agreed before the adoption of this Protocol, shall apply mutatis mutandis to the provisions of this paragraph.

3. The developed country Parties and other developed Parties in Annex II to the Convention may also provide, and developing country Parties avail themselves of, financial resources for the implementation of Article 10, through bilateral, regional and other multilateral channels.

**Article 12**

1. A clean development mechanism is hereby defined.
2. The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3.

3. Under the clean development mechanism:

(a) Parties not included in Annex I will benefit from project activities resulting in certified emission reductions; and

(b) Parties included in Annex I may use the certified emission reductions accruing from such project activities to contribute to compliance with part of their quantified emission limitation and reduction commitments under Article 3, as determined by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

4. The clean development mechanism shall be subject to the authority and guidance of the Conference of the Parties serving as the meeting of the Parties to this Protocol and be supervised by an executive board of the clean development mechanism.

5. Emission reductions resulting from each project activity shall be certified by operational entities to be designated by the Conference of the Parties serving as the meeting of the Parties to this Protocol, on the basis of:

(a) Voluntary participation approved by each Party involved;

(b) Real, measurable, and long-term benefits related to the mitigation of climate change; and

(c) Reductions in emissions that are additional to any that would occur in the absence of the certified project activity.

6. The clean development mechanism shall assist in arranging funding of certified project activities as necessary.

7. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, elaborate modalities and procedures with the objective of ensuring transparency, efficiency and accountability through independent auditing and verification of project activities.

8. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall ensure that a share of the proceeds from certified project activities is used to cover administrative expenses as well as to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation.

9. Participation under the clean development mechanism, including in activities mentioned in paragraph 3 (a) above and in the acquisition of certified emission reductions, may involve private and/or public entities, and is to be subject to whatever guidance may be provided by the executive board of the clean development mechanism.

10. Certified emission reductions obtained during the period from the year 2000 up to the beginning of the first commitment period can be used to assist in achieving compliance in the first commitment period.

**Article 13**

1. The Conference of the Parties, the supreme body of the Convention, shall serve as the meeting of the Parties to this Protocol.

2. Parties to the Convention that are not Parties to this Protocol may participate as observers in the proceedings of any session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. When the Conference of the Parties serves as the meeting of the Parties to this Protocol, decisions under this Protocol shall be taken only by those that are Parties to this Protocol.
3. When the Conference of the Parties serves as the meeting of the Parties to this Protocol, any member of the Bureau of the Conference of the Parties representing a Party to the Convention but, at that time, not a Party to this Protocol, shall be replaced by an additional member to be elected by and from amongst the Parties to this Protocol.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall keep under regular review the implementation of this Protocol and shall make, within its mandate, the decisions necessary to promote its effective implementation. It shall perform the functions assigned to it by this Protocol and shall:

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

(b) Periodically examine the obligations of the Parties under this Protocol, giving due consideration to any reviews required by Article 4, paragraph 2 (d), and Article 7, paragraph 2, of the Convention, in the light of the objective of the Convention, the experience gained in its implementation and the evolution of scientific and technological knowledge, and in this respect consider and adopt regular reports on the implementation of this Protocol;

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

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

(e) Promote and guide, in accordance with the objective of the Convention and the provisions of this Protocol, and taking fully into account the relevant decisions by the Conference of the Parties, the development and periodic refinement of comparable methodologies for the effective implementation of this Protocol, to be agreed on by the Conference of the Parties serving as the meeting of the Parties to this Protocol;

(f) Make recommendations on any matters necessary for the implementation of this Protocol;

(g) Seek to mobilize additional financial resources in accordance with Article 11, paragraph 2;

(h) Establish such subsidiary bodies as are deemed necessary for the implementation of this Protocol;

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

(j) Exercise such other functions as may be required for the implementation of this Protocol, and consider any assignment resulting from a decision by the Conference of the Parties.

5. The rules of procedure of the Conference of the Parties and financial procedures applied under the Convention shall be applied mutatis mutandis under this Protocol, except as may be otherwise decided by consensus by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

6. The first session of the Conference of the Parties serving as the meeting of the Parties to this Protocol shall be convened by the secretariat in conjunction with the first session of the Conference of the Parties that is scheduled after the date of the entry into force of this Protocol.

Subsequent ordinary sessions of the Conference of the Parties serving as the meeting of the Parties
to this Protocol shall be held every year and in conjunction with ordinary sessions of the Conference of the Parties, unless otherwise decided by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

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

8. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State member thereof or observers thereto not party to the Convention, may be represented at sessions of the Conference of the Parties serving as the meeting of the Parties to this Protocol as observers. Anybody or agency, whether national or international, governmental or non-governmental, which is qualified in matters covered by this Protocol and which has informed the secretariat of its wish to be represented at a session of the Conference of the Parties serving as the meeting of the Parties to this Protocol as an observer, may be so admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure, as referred to in paragraph 5 above.

Article 14

1. The secretariat established by Article 8 of the Convention shall serve as the secretariat of this Protocol.

2. Article 8, paragraph 2, of the Convention on the functions of the secretariat, and Article 8, paragraph 3, of the Convention on arrangements made for the functioning of the secretariat, shall apply mutatis mutandis to this Protocol. The secretariat shall, in addition, exercise the functions assigned to it under this Protocol.

Article 15

1. The Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation established by Articles 9 and 10 of the Convention shall serve as, respectively, the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of this Protocol. The provisions relating to the functioning of these two bodies under the Convention shall apply mutatis mutandis to this Protocol. Sessions of the meetings of the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of this Protocol shall be held in conjunction with the meetings of, respectively, the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of the Convention.

2. Parties to the Convention that are not Parties to this Protocol may participate as observers in the proceedings of any session of the subsidiary bodies. When the subsidiary bodies serve as the subsidiary bodies of this Protocol, decisions under this Protocol shall be taken only by those that are Parties to this Protocol.

3. When the subsidiary bodies established by Articles 9 and 10 of the Convention exercise their functions with regard to matters concerning this Protocol, any member of the Bureaux of those subsidiary bodies representing a Party to the Convention but, at that time, not a party to this Protocol, shall be replaced by an additional member to be elected by and from amongst the Parties to this Protocol.

Article 16

The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, as soon as practicable, consider the application to this Protocol of, and modify as appropriate, the multilateral consultative process referred to in Article 13 of the Convention, in the light of any relevant decisions that may be taken by the Conference of the Parties. Any multilateral consultative process that may be applied to this Protocol shall operate without prejudice to the procedures and mechanisms established in accordance with Article 18.
Article 17

The Conference of the Parties shall define the relevant principles, modalities, rules and guidelines, in particular for verification, reporting and accountability for emissions trading. The Parties included in Annex B may participate in emissions trading for the purposes of fulfilling their commitments under Article 3. Any such trading shall be supplemental to domestic actions for the purpose of meeting quantified emission limitation and reduction commitments under that Article.

Article 18

The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, approve appropriate and effective procedures and mechanisms to determine and to address cases of non-compliance with the provisions of this Protocol, including through the development of an indicative list of consequences, taking into account the cause, type, degree and frequency of non-compliance. Any procedures and mechanisms under this Article entailing binding consequences shall be adopted by means of an amendment to this Protocol.

Article 19

The provisions of Article 14 of the Convention on settlement of disputes shall apply mutatis mutandis to this Protocol.

Article 20

1. Any Party may propose amendments to this Protocol.

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

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

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

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

Article 21

1. Annexes to this Protocol shall form an integral part thereof and, unless otherwise expressly provided, a reference to this Protocol constitutes at the same time a reference to any annexes thereto. Any annexes adopted after the entry into force of this Protocol shall be restricted to lists, forms and any other material of a descriptive nature that is of a scientific, technical, procedural or administrative character.

2. Any Party may make proposals for an annex to this Protocol and may propose amendments to annexes to this Protocol.
3. Annexes to this Protocol and amendments to annexes to this Protocol shall be adopted at an ordinary session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. The text of any proposed annex or amendment to an annex shall be communicated to the Parties by the secretariat at least six months before the meeting at which it is proposed for adoption. The secretariat shall also communicate the text of any proposed annex or amendment to an annex to the Parties and signatories to the Convention and, for information, to the Depositary.

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

5. An annex, or amendment to an annex other than Annex A or B, that has been adopted in accordance with paragraphs 3 and 4 above shall enter into force for all Parties to this Protocol six months after the date of the communication by the Depositary to such Parties of the adoption of the annex or adoption of the amendment to the annex, except for those Parties that have notified the Depositary, in writing, within that period of their non-acceptance of the annex or amendment to the annex. The annex or amendment to an annex shall enter into force for Parties which withdraw their notification of non-acceptance on the ninetieth day after the date on which withdrawal of such notification has been received by the Depositary.

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

7. Amendments to Annexes A and B to this Protocol shall be adopted and enter into force in accordance with the procedure set out in Article 20, provided that any amendment to Annex B shall be adopted only with the written consent of the Party concerned.

Article 22

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

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

Article 23

The Secretary-General of the United Nations shall be the Depositary of this Protocol.

Article 24

1. This Protocol shall be open for signature and subject to ratification, acceptance or approval by States and regional economic integration organizations which are Parties to the Convention. It shall be open for signature at United Nations Headquarters in New York from 16 March 1998 to 15 March 1999. This Protocol shall be open for accession from the day after the date on which it is closed for signature. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depositary.

2. Any regional economic integration organization which becomes a Party to this Protocol without any of its member States being a Party shall be bound by all the obligations under this Protocol. In the case of such organizations, one or more of whose member States is a Party to this Protocol, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under this Protocol. In such cases, the organization and the member States shall not be entitled to exercise rights under this Protocol concurrently.
3. In their instruments of ratification, acceptance, approval or accession, regional economic integration organizations shall declare the extent of their competence with respect to the matters governed by this Protocol. These organizations shall also inform the Depositary, who shall in turn inform the Parties, of any substantial modification in the extent of their competence.

**Article 25**

1. This Protocol shall enter into force on the ninetieth day after the date on which not less than 55 Parties to the Convention, incorporating Parties included in Annex I which accounted in total for at least 55 per cent of the total carbon dioxide emissions for 1990 of the Parties included in Annex I, have deposited their instruments of ratification, acceptance, approval or accession.

2. For the purposes of this Article, “the total carbon dioxide emissions for 1990 of the Parties included in Annex I” means the amount communicated on or before the date of adoption of this Protocol by the Parties included in Annex I in their first national communications submitted in accordance with Article 12 of the Convention.

3. For each State or regional economic integration organization that ratifies, accepts or approves this Protocol or accedes thereto after the conditions set out in paragraph 1 above for entry into force have been fulfilled, this Protocol shall enter into force on the ninetieth day following the date of deposit of its instrument of ratification, acceptance, approval or accession.

4. For the purposes of this Article, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by States members of the organization.

**Article 26**

No reservations may be made to this Protocol.

**Article 27**

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

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

3. Any Party that withdraws from the Convention shall be considered as also having withdrawn from this Protocol.

**Article 28**

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

DONE at Kyoto this eleventh day of December one thousand nine hundred and ninety-seven.

IN WITNESS WHEREOF the undersigned, being duly authorized to that effect, have affixed their signatures to this Protocol on the dates indicated.
Annex A (of Kyoto Protocol)

**Greenhouse gases**
- Carbon dioxide (CO2)
- Methane (CH4)
- Nitrous oxide (N20)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF6)

**Sectors/source categories**

**Energy**
- Fuel combustion
  - Energy industries
  - Manufacturing industries and construction
  - Transport
  - Other sectors
  - Other
- Fugitive emissions from fuels
  - Solid fuels
  - Oil and natural gas
  - Other

**Industrial processes**
- Mineral products
- Chemical industry
- Metal production
- Other production
  - Production of halocarbons and sulphur hexafluoride
  - Consumption of halocarbons and sulphur hexafluoride
  - Other

**Solvent and other product use**

**Agriculture**
- Enteric fermentation
- Manure management
- Rice cultivation
- Agricultural soils
- Prescribed burning of savannas
- Field burning of agricultural residues
- Other

**Waste**
- Solid waste disposal on land
- Wastewater handling
- Waste incineration
- Other
Annex B (of Kyoto Protocol)

<table>
<thead>
<tr>
<th>Party</th>
<th>Quantified emission limitation or reduction (percentage of base year or period)</th>
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<tbody>
<tr>
<td>Australia</td>
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<td>Austria</td>
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<td>United States of America</td>
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* Countries that are undergoing the process of transition to a market economy.
Annex 2.2

Decision 1/CP.13: Bali Action Plan

The Conference of the Parties,

Resolving to urgently enhance implementation of the Convention in order to achieve its ultimate objective in full accordance with its principles and commitments,

Reaffirming that economic and social development and poverty eradication are global priorities,

Responding to the findings of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change that warming of the climate system is unequivocal, and that delay in reducing emissions significantly constrains opportunities to achieve lower stabilization levels and increases the risk of more severe climate change impacts,

Recognizing that deep cuts in global emissions will be required to achieve the ultimate objective of the Convention and emphasizing the urgency to address climate change as indicated in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change,

1. Decides to launch a comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, in order to reach an agreed outcome and adopt a decision at its fifteenth session, by addressing, inter alia:

(a) A shared vision for long-term cooperative action, including a long-term global goal for emission reductions, to achieve the ultimate objective of the Convention, in accordance with the provisions and principles of the Convention, in particular the principle of common but differentiated responsibilities and respective capabilities, and taking into account social and economic conditions and other relevant factors;

(b) Enhanced national/international action on mitigation of climate change, including, inter alia,

(i) Measurable, reportable and verifiable nationally appropriate mitigation commitments or actions, including quantified emission limitation and reduction objectives, by all developed country Parties, while ensuring the comparability of efforts among them, taking into account differences in their national circumstances;

(ii) Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner;

(iii) Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries;

(iv) Cooperative sectoral approaches and sector-specific actions, in order to enhance implementation of Article 4, paragraph 1(c), of the Convention;

(v) Various approaches, including opportunities for using markets, to enhance the cost-effectiveness of, and to promote, mitigation actions, bearing in mind different circumstances of developed and developing countries;

(vi) Economic and social consequences of response measures;

(vii) Ways to strengthen the catalytic role of the Convention in encouraging multilateral bodies, the public and private sectors and civil society, building on synergies among activities and processes, as a means to support mitigation in a coherent and integrated manner;

(c) Enhanced action on adaptation, including, inter alia, consideration of:

(i) International cooperation to support urgent implementation of adaptation actions, including

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through vulnerability assessments, prioritization of actions, financial needs assessments, capacity-building and response strategies, integration of adaptation actions into sectoral and national planning, specific projects and programmes, means to incentivize the implementation of adaptation actions, and other ways to enable climate-resilient development and reduce vulnerability of all Parties, taking into account the urgent and immediate needs of developing countries that are particularly vulnerable to the adverse effects of climate change, especially the least developed countries and small island developing States, and further taking into account the needs of countries in Africa affected by drought, desertification and floods;

(ii) Risk management and risk reduction strategies, including risk sharing and transfer mechanisms such as insurance;

(iii) Disaster reduction strategies and means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change;

(iv) Economic diversification to build resilience;

(v) Ways to strengthen the catalytic role of the Convention in encouraging multilateral bodies, the public and private sectors and civil society, building on synergies among activities and processes, as a means to support adaptation in a coherent and integrated manner;

(d) Enhanced action on technology development and transfer to support action on mitigation and adaptation, including, inter alia, consideration of:

(i) Effective mechanisms and enhanced means for the removal of obstacles to, and provision of financial and other incentives for, scaling up of the development and transfer of technology to developing country Parties in order to promote access to affordable environmentally sound technologies;

(ii) Ways to accelerate deployment, diffusion and transfer of affordable environmentally sound technologies;

(iii) Cooperation on research and development of current, new and innovative technology, including win-win solutions;

(iv) The effectiveness of mechanisms and tools for technology cooperation in specific sectors;

(e) Enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation, including, inter alia, consideration of:

(i) Improved access to adequate, predictable and sustainable financial resources and financial and technical support, and the provision of new and additional resources, including official and concessional funding for developing country Parties;

(ii) Positive incentives for developing country Parties for the enhanced implementation of national mitigation strategies and adaptation action;

(iii) Innovative means of funding to assist developing country Parties that are particularly vulnerable to the adverse impacts of climate change in meeting the cost of adaptation;

(iv) Means to incentivize the implementation of adaptation actions on the basis of sustainable development policies;

(v) Mobilization of public- and private-sector funding and investment, including facilitation of climate-friendly investment choices;

(vi) Financial and technical support for capacity-building in the assessment of the costs of adaptation in developing countries, in particular the most vulnerable ones, to aid in determining their financial needs;

2. **Decides** that the process shall be conducted under a subsidiary body under the Convention, hereby established and known as the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, that shall complete its work in 2009 and present the outcome of its work to the Conference of the Parties for adoption at its fifteenth session;
3. **Agrees** that the process shall begin without delay, that the sessions of the group will be scheduled as often as is feasible and necessary to complete the work of the group, where possible in conjunction with sessions of other bodies established under the Convention, and that its sessions may be complemented by workshops and other activities, as required;

4. **Decides** that the first session of the group shall be held as soon as is feasible and not later than April 2008;

5. **Decides** that the Chair and Vice-Chair of the group, with one being from a Party included in Annex I to the Convention (Annex I Party) and the other being from a Party not included in Annex I to the Convention (non-Annex I Party), shall alternate annually between an Annex I Party and a non-Annex I Party;

6. **Takes note** of the proposed schedule of meetings contained in the annex to this decision;

7. **Instructs** the group to develop its work programme at its first session in a coherent and integrated manner;

8. **Invites** Parties to submit to the secretariat, by 22 February 2008, their views regarding the work programme, taking into account the elements referred to in paragraph 1 above, to be compiled by the secretariat for consideration by the group at its first meeting;

9. **Requests** the group to report to the Conference of the Parties at its fourteenth session on progress made;

10. **Agrees** to take stock of the progress made, at its fourteenth session, on the basis of the report by the group;

11. **Agrees** that the process shall be informed by, inter alia, the best available scientific information, experience in implementation of the Convention and its Kyoto Protocol, and processes thereunder, outputs from other relevant intergovernmental processes and insights from the business and research communities and civil society;

12. **Notes** that the organization of work of the group will require a significant amount of additional resources to provide for the participation of delegates from Parties eligible to be funded and to provide conference services and substantive support;

13. **Strongly** urges Parties in a position to do so, in order to facilitate the work of the group, to provide contributions to the Trust Fund for Participation in the UNFCCC Process and the Trust Fund for Supplementary Activities for the purposes referred to in paragraph 12 above and to provide other forms of in kind support such as hosting a session of the group.
Annex (of Bali Action Plan)


<table>
<thead>
<tr>
<th>Session</th>
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</tr>
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<tr>
<td>Session 1</td>
<td>March/April 2008</td>
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<tr>
<td>Session 2</td>
<td>June 2008, in conjunction with the twenty-eighth sessions of the subsidiary bodies</td>
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<tr>
<td>Session 3</td>
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<tr>
<td>Session 4</td>
<td>December 2008, in conjunction with the fourteenth session of the Conference of the Parties</td>
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Parties and Groups under UNFCCC

The groups of Parties which operate in the context of the Convention are the following:

- Groups of Parties under the Convention;
- Regional groups; and
- Political negotiating groups

Groups of Parties under the Convention

The Convention establishes a number of groups of Parties. It divides Parties into two main ones: those that are listed in Annex I of the Convention text, known as Annex I Parties, and those not included in Annex I, known as non-Annex I Parties. Within these principal groups, further distinctions are made. Some of the Annex I Parties are also listed in Annex II of the Convention, while others are in the category of countries with economies in transition (EITs).

Within the group of non-Annex I Parties, the Convention distinguishes least developed countries (LDCs) from others. Furthermore, Article 4.8 of the Convention highlights a range of categories of developing countries that are particularly vulnerable to the adverse effects of climate change and/or the implementation of measures to respond to it, because of their specific geographical, climatic or economic conditions.

Annex I Parties

The Convention currently lists 42 industrialized countries as Annex I Parties. They include both the relatively wealthy countries that were members of the Organization for Economic Co-operation and Development (OECD) in 1992, plus the EITs, including the Russian Federation, the Baltic States, and several Central and Eastern European States. Annex I Parties have higher per capita emissions than most developing countries and they have greater financial and institutional capacity to address climate change. The principles of equity and 'common but differentiated responsibilities' (Article 3.1) that underpin the Convention require these Parties to take a lead in combating climate change and the adverse effects thereof. Annex I Parties must submit regular reports, known as national communications, detailing their climate change policies and measures.

Annex II of the Convention currently contains 24 Annex I Parties who were OECD members in 1992. They have a special obligation to provide “new and additional financial resources” (Article 4.3) to developing countries to help them tackle climate change. They must also facilitate the transfer of climate-friendly technologies to both developing countries and EITs.

Parties not included in Annex I (Non-Annex I Parties)

All remaining Parties, basically, the developing countries, make up the group of Non-Annex I Parties, currently numbering 145. These Parties must report in more general terms on their actions to address climate change and to adapt to its effects. The time frame for the submission of their initial national communications, including their emission inventories, is less stringent than for Annex I Parties and is contingent on the receipt of funding.

Countries with economies in transition (EITs)

Annex I Parties undergoing the process of transition to a market economy are allowed a certain degree of flexibility in implementing the commitments under Article 4.2 to allow for the economic and political changes they have recently undergone (Article 4.6). Some EITs have accordingly selected a base year different from 1990 as the reference year for their historic emission levels.

Least Developed Countries (LDCs)

The 49 countries defined as LDCs by the United Nations are also Convention Parties, with the exception of one state (Somalia). They include members of other groups such as the African Group (accounted for almost two third of total LDCs), the Alliance of Small Island States (AOSIS) and others. They are quite active in the climate change negotiation process, often working together to defend their particular interests, in, for example, vulnerability and adaptation to climate change. The particular situation of LDCs is recognized by the Convention (Article 4.8 & 4.9, Article 12.5).
Regional groups
Whereas the Convention itself refers to the groups of Parties mentioned above, the draft rules of procedure refer to the five regional groups that are defined in line with common United Nations practice, namely:

- Africa;
- Asia;
- Central and Eastern Europe;
- Latin America and the Caribbean states (GRULAC); and
- Western Europe and Others (the “Others” include Australia, Canada, New Zealand, Turkey and the United States).

In addition to these regional groups, the draft rules of procedure also refer to the group of Small Island Developing States (SIDS), a coalition consists of Small Island and low lying coastal states. According to Rule 22.1, there are two Bureau members from each of the five regional groups and one Bureau member from the SIDS.

Political negotiating groups
Most Parties belong to political negotiating groups, formed on the basis of their common interests. There is no formal process for establishing these groups. Parties decide to form them, and inform the COP Bureau, the SBs or the secretariat. They meet informally during sessions of the COP or the SBs. Their purpose is to exchange information and, quite often, to share information on common issues, and, in some instances, develop and agree on common positions.

Group of 77 and China
The G-77 and China represents the largest coalition group within the United Nations. The G-77 and China was founded in 1964 in the context of the United Nations Conference on Trade and Development (UNCTAD) and now functions throughout the United Nations system, comprising 132 members and representing some 3.5 billion people. It consists of small island countries, oil-exporting countries, LDCs, industrializing countries, and middle-income countries.

The country holding the Chair of the group often speaks for the G-77 and China as a whole. It normally speaks on behalf of the group in plenary and contact group meetings on issues on which there is agreement. In order to reach agreement on different agenda items, contact groups are formed by the Chairs of the sessions (SBI/SBSTA) and now functions throughout the United Nations system, comprising 132 members and representing some 3.5 billion people. It consists of small island countries, oil-exporting countries, LDCs, industrializing countries, and middle-income countries.

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If there is no agreement, each country or group of countries is free to take a different position. It has been experienced that usually G-77 and China speaks as group, in particular in the contact group meetings; but not always in the plenary.

The African Group is working as an active negotiating group. It consists of 53 members. They have various common concerns, including the lack of resources and vulnerability to extreme weather. The group often makes common statements on various issues, such as capacity-building and technology transfer.

The Alliance of Small Island States (AOSIS) is an alliance of 43 small island states and low-lying coastal countries that share similar development challenges and environmental concerns, especially their vulnerability to the adverse effects of global climate change. They are also an active negotiating group or coalition and basically operate under the auspices of SIDS as recognized by COP bureau. Most of the AOSIS members also belong to the SIDS. This was established in November 1990 during the Second World Climate Conference. The AOSIS countries, united by the threat that climate change poses to their territorial survival, frequently adopt a common stance in negotiations. They were the first to propose a draft text, during the Kyoto Protocol negotiations, calling for cuts in CO2 emissions of 20 per cent from 1990 levels by 2005.
European Union (EU)
While the European Community, represented by the European Commission, has become a Party to the Convention as a regional economic integration organization, the association formed by its Member States is commonly referred to as the European Union (EU). The 25 EU Member States, plus the European Commission, meet in private to agree on common positions. The country that holds the EU Presidency – a position that rotates every six months – speaks for the European Community and its Member States. Additionally, individual Member States have been appointed to take the lead in bilateral negotiations with other states or groups and may act as leaders on particular issues.

Umbrella Group
The Umbrella Group is an association of developed countries which was formed following the adoption of the Kyoto Protocol at COP 3 in 1997. Although there is no formal list, the group is usually made up of Australia, Canada, Iceland, Japan, New Zealand, Norway, the Russian Federation, Ukraine and the United States. It evolved from the JUSSCANNZ group, which was active during the Kyoto Protocol negotiations (JUSSCANNZ being an acronym for Japan, the United States, Switzerland, Canada, Australia, Norway and New Zealand). The main difference between the two is that the Umbrella Group excludes Switzerland and includes the Russian Federation and Ukraine. Countries in the Umbrella Group share information on issues of common concern, but do not usually take common positions.

Several other Parties work collaboratively in the climate change negotiation process. Among these are Environmental Integrity Group (EIG) comprising of Mexico, the Republic of Korea, Lichtenstein and Switzerland, Central Group (Bulgaria, Croatia and Romania), Organization of Petroleum Exporting Countries, OPEC (Algeria, Indonesia, Iran, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela) and CACAM: the Central Asia, Caucasus, Albania and Moldova.
## Key Landmarks in the Climate Change Negotiation Process

<table>
<thead>
<tr>
<th>Year</th>
<th>Event and progress</th>
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<tbody>
<tr>
<td>1988</td>
<td>World Meteorological Organization (WMO) establishes the IPCC. The UN General Assembly takes up climate change for the first time.</td>
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<td>1990</td>
<td>First Assessment Report of IPCC. Establishes an Intergovernmental Negotiating Committee (INC) for framework convention on climate change.</td>
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<td>1992</td>
<td>UN Framework Convention on Climate Change (UNFCCC) adopted at the fifth session of the INC at New York and Open for signature at the &quot;Earth Summit&quot; in Brazil.</td>
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<tr>
<td>1994</td>
<td>21 March, the Convention enters into force after ratification by 58 Parities. Objectives of the UNFCCC are stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such level should be achieved within a timeframe 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.</td>
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<tr>
<td>1995</td>
<td>First Session of the Conference of the Parties (COP1), Berlin, Germany- Established the Ad hoc Group on Berlin Mandate (AGBM) to carry out a process that would enable it to take appropriate action beyond the year 2000, including the strengthening of the commitments of the Annex I Parties through a protocol or other legal instrument.</td>
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<td>1996</td>
<td>Second Session of the Conference of the Parties (COP2), Geneva, Switzerland- Ministerial Declaration confirming the findings of the IPCC Second Assessment Report (SAR) and calling for &quot;legally binding&quot; commitments. US announced its support for a legally binding protocol or other legal instrument.</td>
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<td>1997</td>
<td>Third Session of Conference of the Parties (COP3), Kyoto, Japan- The Kyoto Protocol (KP) was adopted with legally enforced ambition of limiting and reducing greenhouse gas emissions; Average reduction target is 5.2%; Three Flexible Mechanisms: Joint Implementation, Emission Trading, and Clean Development Mechanism</td>
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<tr>
<td>1998</td>
<td>The Kyoto Protocol opened for signature at UN headquarters in New York. It has a condition of at least 55 countries and 55% emission of Annex I countries to enter into force.</td>
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<td>1998</td>
<td>Fourth Session of the Conference of the Parties (COP4), Buenos Aires, Argentina- Adopts the &quot;Buenos Aires Plan of Action&quot;. The Parties declared their determination to strengthen the implementation of the Convention and prepare for the future entry into force of the Kyoto Protocol. The Plan contains the Parties' resolution to demonstrate substantial progress on the financial mechanism; the development and transfer of technology; the implementation of FCCC Articles 4.8 and 4.9, as well as Protocol Articles 2.3 and 3.14; activities implemented jointly (AIJ); the mechanisms of the Kyoto Protocol; and the preparations for COP/MOP-1.</td>
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<tr>
<td>1999</td>
<td>Fifth Session of the Conference of the Parties (COP5), Bonn, Germany- Parties set a two-year deadline for strengthening FCCC implementation and preparing for the future entry into force of the Kyoto Protocol.</td>
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<td>2000</td>
<td>Sixth session of the Conference of the Parties (COP6), held in the Hague, The Netherlands could not come to a consensus on the implementation of the convention and adoption of the protocol.</td>
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<td>2001</td>
<td>Second part of the Sixth session of the Conference of the Parties held on 18-27 July at Bonn to come to a consensus. Finally Parties to UNFCCC came to a consensus to implement KP.</td>
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<td>Year</td>
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<tr>
<td>2001</td>
<td>Seventh Session of the Conference of the Parties (COP7), Marrakech, Morocco: Sought to finalize agreement on the operational details for commitments on reducing emissions of greenhouse gases under the Kyoto Protocol; Sought agreement on actions to strengthen implementation of the UNFCCC. Finalized procedures and modalities of the flexible mechanism. Decisions known as Marrakech Accords - 3 decisions adopted. LDC funds for Preparation of NAPA (UNEP and UNDP), Establishment of LDC Expert Group (LEG), Adopted Terms of References of the LEG.</td>
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<td>2002</td>
<td>Eighth Session of the Conference of the Parties (COP8), New Delhi, India: The Delhi Declaration reaffirms the development and poverty eradication as the overriding priority of the developing countries; Need to address both mitigation and adaptation measures; Urge Parties to Ratify Kyoto Protocol; Investment in Innovative Technologies and Strengthen Technology Transfer.</td>
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<td>2003</td>
<td>Ninth Session of the Conference of the Parties (COP9), Milan, Italy: Key Issues were Agreement on the Findings of the Third Assessment Report; Review of Methodological Issue under UNFCCC and KP; Finalization of modalities of Aforestation and Reforestation under the CDM; Funding - Special Climate Change Fund, LDC Fund, and Adaptation Fund; Technology Transfer and Information Dissemination and Capacity Building.</td>
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<td>2004</td>
<td>Tenth Session of the Conference of the Parties (COP10), Buenos Aires, Argentina: Key Issues were Implementation of decision 5 of COP7 known as 5/COP7 related to article 4.8 and 4.9: Finalization of Operational Modalities of Different Funds prepared by GEF; Finalization of modalities of Aforestation and Reforestation under the CDM; Funding - Special Climate Change Fund, LDC Fund, and Adaptation Fund; Education, Awareness and Information Dissemination; Capacity Building; Issues Related to LDC.</td>
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<td>2005</td>
<td>Eleventh Session of the Conference of the Parties (COP11), Montreal, Canada: Key outcome were a dialogue on strategic approaches for long-term global cooperative action; for this purpose a series of workshops was planned to develop the broad range of actions needed to respond to the climate change challenge. The First Meeting of the Parties to the Kyoto Protocol (COP/MOP1) also took place during COP11. Under the Kyoto Protocol, the process for future commitments beyond 2012 got underway. An ad-hoc working group (AWG-KP) was established under Article 3.9 of the protocol to discuss future commitments for developed countries for the period after 2012. It started working in May 2005.</td>
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<tr>
<td>2006</td>
<td>Twelfth Session of the Conference of Parties (COP12) and Second Meeting of the Parties to Kyoto Protocol (COP/MOP2) held on Nairobi, Kenya: This session concluded with the adoption of a wide range of decisions designed to mitigate climate change and help countries adapt to the effects of global warming. That include: the agreement on activities for the next few years under the &quot;Nairobi Work Programme on Impacts, Vulnerability and Adaptation&quot;; the agreement on the guided principles and modalities of the Adaptation Fund under the Kyoto Protocol; recognition of the barriers that stand in the way of increased penetration of CDM projects in many countries, in particular for Africa; finalization of the rules of the Special Climate Change Fund; adoption of rules of procedure for the Kyoto Protocol's Compliance Committee to make it fully operational, etc.</td>
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<td>2007</td>
<td>The Thirteenth Conference of Parties (COP13) and Third Meeting of the Parties to Kyoto Protocol (COP/MOP3) took place at Bali, Indonesia. Culminated in the adoption of the Bali Road Map, which consists of a number of forward-looking decisions that represent the various tracks that are essential to reaching a secure climate future. The Bali Road Map includes the Bali Action Plan, which charts the course for a new negotiating process designed to tackle climate change, with the aim of completing this by 2009. It also includes the AWG-KP negotiations and their 2009 deadline, the launch of the Adaptation Fund, the scope and content of the Article 9 review of the Kyoto Protocol, as well as decisions on technology transfer and on reducing emissions from deforestation and forest degradation (REDD). The Bali Action Plan was built with 5 building blocks: shared vision, mitigation, adaptation, finance and technology cooperation. An Ad-hoc Working Group on Long-term Cooperative Action was set up for elaborating on the 6 elements and their operationalisation.</td>
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<td>2008</td>
<td>The Fourteenth Conference of Parties (COP14) and Fourth Meeting of the Parties to Kyoto Protocol (COP/MOP4) concluded in Pozna?, Poland with a clear commitment from governments to shift into full negotiating mode the next year in order to shape an ambitious and effective international response to climate change, to be agreed in Copenhagen at the end of 2009. Parties agreed that the first draft of a concrete negotiating text would be available at a UNFCCC gathering in Bonn in June of 2009. At Pozna?, the finishing touches were put to the Kyoto Protocol's Adaptation Fund, with Parties agreeing that the Adaptation Fund Board should have legal capacity to grant direct access to developing countries. Progress was also made on a number of important ongoing issues that are particularly important for developing countries, including: adaptation; finance; technology; reducing emissions from deforestation and forest degradation (REDD); and disaster management. A key event at the Conference was a ministerial round table on a shared vision on long-term cooperative action on climate change. The round table provided the opportunity to lay the foundations for further work on the components of an agreed outcome at COP 15 in Copenhagen.</td>
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| 2009 | The United Nations Climate Change Conference, Copenhagen 2009, held the  
|       | Fifteenth session of the Conference of the Parties (COP 15)  
|       | Fifth session of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP 5)  
|       | Thirty-first session of the Subsidiary Body for Implementation (SBI 31)  
|       | Thirty-first session of the Subsidiary Body for Scientific and Technological Advice (SBSTA 31)  
|       | Tenth session of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP 10)  
|       | Eighth session of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA 8) |
|      | Governments engaged at the highest political level including the attendance by US President, several other heads of state and government incl. PM Sheikh Hasina of Bangladesh. It came out with a document called the Copenhagen Accord which created a lot of rift among nations because of the way this was made which to many was not transparent and not driven by the COP. In any case, the Copenhagen Accord was ultimately endorsed by most countries and formed the basis of subsequent negotiations. COP 15 had progress in other areas including improvements to the clean development mechanism, amending Annex I to the Convention to add Malta, guidance on REDD+, and draft decisions on adaptation, technology, and capacity-building. However, the Bali Roadmap negotiations could not be concluded and negotiations were continued in 2010 and in COP 16 in Cancun. |
| 2010 | COP 16 and MoP 6 was held in Cancun, Mexico. Came out with substantial progress in finance, development of the architecture of the financial mechanism for the green development Fund set up in Copenhagen as well as in technology. But till now little progress on KP second commitment period and also in shared vision and mitigation goals and commitments. |
| 2011 | COP 17 and MoP 7 was held in Durban, South Africa. This conference decided to terminate the Ad Hoc Working Group on Long-term Cooperative Action under the Convention and opening of a new Ad Hoc Working Group titled 'Durban Platform for Enhanced Action' (AWG DP) that shall start its work in the first half of 2012. The Ad Hoc Working Group on the Durban Platform for Enhanced Action shall complete its work as early as possible but no later than 2015 in order to adopt this protocol, legal instrument or agreed outcome with legal force at the twenty-first session of the Conference of the Parties and for it to come into effect and be implemented from 2020.  
|      | This conference also took decision to enter a second period of emissions reduction commitments to start in 2013, while the first commitment period will come to an end in December 2012. The Second Commitment period will end either in 2017 or 2020 to be decided by parties under the AWG-KP. |
Draft decision -/CP.15
Proposal by the President

Copenhagen Accord

The Heads of State, Heads of Government, Ministers, and other heads of delegation present at the United Nations Climate Change Conference 2009 in Copenhagen,

In pursuit of the ultimate objective of the Convention as stated in its Article 2,

Being guided by the principles and provisions of the Convention,

Noting the results of work done by the two Ad hoc Working Groups,

Endorsing decision x/CP.15 on the Ad hoc Working Group on Long-term Cooperative Action and decision x/CMP.5 that requests the Ad hoc Working Group on Further Commitments of Annex I Parties under the Kyoto Protocol to continue its work,

Have agreed on this Copenhagen Accord which is operational immediately.

1. We underline that climate change is one of the greatest challenges of our time. We emphasize our strong political will to urgently combat climate change in accordance with the principle of common but differentiated responsibilities and respective capabilities. To achieve the ultimate objective of the Convention to stabilize greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, we shall, recognizing the scientific view that the increase in global temperature should be below 2 degrees Celsius, on the basis of equity and in the context of sustainable development, enhance our long-term cooperative action to combat climate change. We recognize the critical impacts of climate change and the potential impacts of response measures on countries particularly vulnerable to its adverse effects and stress the need to establish a comprehensive adaptation programme including international support.

2. We agree that deep cuts in global emissions are required according to science, and as documented by the IPCC Fourth Assessment Report with a view to reduce global emissions so as to hold the increase in global temperature below 2 degrees Celsius, and take action to meet this objective consistent with science and on the basis of equity. We should cooperate in achieving the peaking of global and national emissions as soon as possible, recognizing that the time frame for peaking will be longer in developing countries and bearing in mind that social and economic development and poverty eradication are the first and overriding priorities of developing countries and that a low-emission development strategy is indispensable to sustainable development.

3. Adaptation to the adverse effects of climate change and the potential impacts of response measures is a challenge faced by all countries. Enhanced action and international cooperation on adaptation is urgently required to ensure the implementation of the Convention by enabling and supporting the implementation of adaptation actions aimed at reducing vulnerability and building resilience in developing countries, especially in those that are particularly vulnerable, especially least developed countries, small island developing States and Africa. We agree that developed countries shall provide adequate, predictable and sustainable financial resources, technology and capacity-building to support the implementation of adaptation action in developing countries.

4. Annex I Parties commit to implement individually or jointly the quantified economy wide emissions targets for 2020, to be submitted in the format given in Appendix I by Annex I Parties to the secretariat by 31 January 2010 for compilation in an INF document. Annex I Parties that are Party to the Kyoto Protocol will thereby further strengthen the emissions reductions initiated by the Kyoto Protocol. Delivery of reductions and financing by developed countries will be measured, reported and verified in accordance with existing and any further guidelines adopted by the Conference of the Parties, and will ensure that accounting of such targets and finance is rigorous, robust and transparent.

5. Non-Annex I Parties to the Convention will implement mitigation actions, including those to be submitted to the secretariat by non-Annex I Parties in the format given in Appendix II by 31 January 2010, for compilation in an INF document, consistent with Article 4.1 and Article 4.7 and in the context of sustainable development. Least developed countries and small island developing States may

Annex 5

Draft decision -/CP.15
Proposal by the President

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Being guided by the principles and provisions of the Convention,

Noting the results of work done by the two Ad hoc Working Groups,

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5. Non-Annex I Parties to the Convention will implement mitigation actions, including those to be submitted to the secretariat by non-Annex I Parties in the format given in Appendix II by 31 January 2010, for compilation in an INF document, consistent with Article 4.1 and Article 4.7 and in the context of sustainable development. Least developed countries and small island developing States may
undertake actions voluntarily and on the basis of support. Mitigation actions subsequently taken and envisaged by Non-Annex I Parties, including national inventory reports, shall be communicated through national communications consistent with Article 12.1(b) every two years on the basis of guidelines to be adopted by the Conference of the Parties. Those mitigation actions in national communications or otherwise communicated to the Secretariat will be added to the list in appendix II. Mitigation actions taken by Non-Annex I Parties will be subject to their domestic measurement, reporting and verification the result of which will be reported through their national communications every two years. Non-Annex I Parties will communicate information on the implementation of their actions through National Communications, with provisions for international consultations and analysis under clearly defined guidelines that will ensure that national sovereignty is respected. Nationally appropriate mitigation actions seeking international support will be recorded in a registry along with relevant technology, finance and capacity building support. Those actions supported will be added to the list in appendix II. These supported nationally appropriate mitigation actions will be subject to international measurement, reporting and verification in accordance with guidelines adopted by the Conference of the Parties.

6. We recognize the crucial role of reducing emission from deforestation and forest degradation and the need to enhance removals of greenhouse gas emission by forests and agree on the need to provide positive incentives to such actions through the immediate establishment of a mechanism including REDD-plus, to enable the mobilization of financial resources from developed countries.

7. We decide to pursue various approaches, including opportunities to use markets, to enhance the cost-effectiveness of, and to promote mitigation actions. Developing countries, especially those with low emitting economies should be provided incentives to continue to develop on a low emission pathway.

8. Scaled up, new and additional, predictable and adequate funding as well as improved access shall be provided to developing countries, in accordance with the relevant provisions of the Convention, to enable and support enhanced action on mitigation, including substantial finance to reduce emissions from deforestation and forest degradation (REDD-plus), adaptation, technology development and transfer and capacity-building, for enhanced implementation of the Convention. The collective commitment by developed countries is to provide new and additional resources, including forestry and investments through international institutions, approaching USD 30 billion for the period 2010-2012 with balanced allocation between adaptation and mitigation. Funding for adaptation will be prioritized for the most vulnerable developing countries, such as the least developed countries, small island developing States and Africa. In the context of meaningful mitigation actions and transparency on implementation, developed countries commit to a goal of mobilizing jointly USD 100 billion dollars a year by 2020 to address the needs of developing countries. This funding will come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance. New multilateral funding for adaptation will be delivered through effective and efficient fund arrangements, with a governance structure providing for equal representation of developed and developing countries. A significant portion of such funding should flow through the Copenhagen Green Climate Fund.

9. To this end, a High Level Panel will be established under the guidance of and accountable to the Conference of the Parties to study the contribution of the potential sources of revenue, including alternative sources of finance, towards meeting this goal.

10. We decide that the Copenhagen Green Climate Fund shall be established as an operating entity of the financial mechanism of the Convention to support projects, programme, policies and other activities in developing countries related to mitigation including REDD-plus, adaptation, capacity building, technology development and transfer.

11. In order to enhance action on development and transfer of technology we decide to establish a Technology Mechanism to accelerate technology development and transfer in support of action on adaptation and mitigation that will be guided by a country-driven approach and be based on national circumstances and priorities.

12. We call for an assessment of the implementation of this Accord to be completed by 2015, including in light of the Convention's ultimate objective. This would include consideration of strengthening the long-term goal referencing various matters presented by the science, including in relation to temperature rises of 1.5 degrees Celsius.
Decision 1/CP.16

The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention

The Conference of the Parties,

Recalling its decision 1/CP.13 (the Bali Action Plan) and decision 1/CP.15,

Seeking to secure progress in a balanced manner, with the understanding that, through this decision, not all aspects of the work of the Ad Hoc Working Group on long-term cooperative action under the Convention are concluded, and that nothing in this decision shall prejudge prospects for, or the content of, a legally binding outcome in the future,

Reaffirming the commitment to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, in order to achieve the ultimate objective of the Convention,

Recalling the principles, provisions and commitments set forth in the Convention, in particular its Articles 3 and 4,

Recognizing that climate change represents an urgent and potentially irreversible threat to human societies and the planet, and thus requires to be urgently addressed by all Parties,

Affirming the legitimate needs of developing country Parties for the achievement of sustained economic growth and the eradication of poverty, so as to be able to deal with climate change,

Noting resolution 10/4 of the United Nations Human Rights Council on human rights and climate change, which recognizes that the adverse effects of climate change have a range of direct and indirect implications for the effective enjoyment of human rights and that the effects of climate change will be felt most acutely by those segments of the population that are already vulnerable owing to geography, gender, age, indigenous or minority status, or disability,

I. A shared vision for long-term cooperative action

1. Affirms that climate change is one of the greatest challenges of our time and that all Parties share a vision for long-term cooperative action in order to achieve the objective of the Convention under its Article 2, including through the achievement of a global goal, on the basis of equity and in accordance with common but differentiated responsibilities and respective capabilities; this vision is to guide the policies and actions of all Parties, while taking into full consideration the different circumstances of Parties in accordance with the principles and provisions of the Convention; the vision addresses mitigation, adaptation, finance, technology development and transfer, and capacity-building in a balanced, integrated and comprehensive manner to enhance and achieve the full, effective and sustained implementation of the Convention, now, up to and beyond 2012;

2. Further affirms that:
   (a) Scaled-up overall mitigation efforts that allow for the achievement of desired stabilization levels are necessary, with developed country Parties showing leadership by undertaking ambitious emission reductions and providing technology, capacity-building and financial resources to developing country Parties, in accordance with the relevant provisions of the Convention;
   (b) Adaptation must be addressed with the same priority as mitigation and requires appropriate institutional arrangements to enhance adaptation action and support;
   (c) All Parties should cooperate, consistent with the principles of the Convention, through effective mechanisms, enhanced means and appropriate enabling environments, and enhance technology development and the transfer of technologies to developing country Parties to enable action on mitigation and adaptation;
   (d) Mobilization and provision of scaled-up, new, additional, adequate and predictable financial resources is necessary to address the adaptation and mitigation needs of developing countries;
(e) Capacity-building is essential to enable developing country Parties to participate fully in, and to implement effectively, their commitments under the Convention; and that the goal is to enhance the capacity of developing country Parties in all areas;

3. Recognizes that warming of the climate system is unequivocal and that most of the observed increase in global average temperatures since the mid-twentieth century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations, as assessed by the Intergovernmental Panel on Climate Change in its Fourth Assessment Report;

4. Further recognizes that deep cuts in global greenhouse gas emissions are required according to science, and as documented in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, with a view to reducing global greenhouse gas emissions so as to hold the increase in global average temperature below 2°C above preindustrial levels, and that Parties should take urgent action to meet this long-term goal, consistent with science and on the basis of equity; also recognizes the need to consider, in the context of the first review, as referred to in paragraph 138 below, strengthening the long-term global goal on the basis of the best available scientific knowledge, including in relation to a global average temperature rise of 1.5°C;

5. Agrees, in the context of the long-term goal and the ultimate objective of the Convention and the Bali Action Plan, to work towards identifying a global goal for substantially reducing global emissions by 2050, and to consider it at the seventeenth session of the Conference of the Parties;

6. Also agrees that Parties should cooperate in achieving the peaking of global and national greenhouse gas emissions as soon as possible, recognizing that the time frame for peaking will be longer in developing countries, and bearing in mind that social and economic development and poverty eradication are the first and overriding priorities of developing countries and that a low-carbon development strategy is indispensable to sustainable development; in this context, further agrees to work towards identifying a time frame for global peaking of greenhouse gas emissions based on the best available scientific knowledge and equitable access to sustainable development, and to consider it at the seventeenth session of the Conference of the Parties;

7. Recognizes the need to engage a broad range of stakeholders at the global, regional, national and local levels, be they government, including subnational and local government, private business or civil society, including youth and persons with disability, and that gender equality and the effective participation of women and indigenous peoples are important for effective action on all aspects of climate change;

8. Emphasizes that Parties should, in all climate change related actions, fully respect human rights;

9. Confirms that Parties, especially developing country Parties that would have to bear a disproportionate or abnormal burden under the long-term cooperative action under the Convention, should be given full consideration;

10. Realizes that addressing climate change requires a paradigm shift towards building a low-carbon society that offers substantial opportunities and ensures continued high growth and sustainable development, based on innovative technologies and more sustainable production and consumption and lifestyles, while ensuring a just transition of the workforce that creates decent work and quality jobs;

II. Enhanced action on adaptation

11. Agrees that adaptation is a challenge faced by all Parties, and that enhanced action and international cooperation on adaptation is urgently required to enable and support the implementation of adaptation actions aimed at reducing vulnerability and building resilience in developing country Parties, taking into account the urgent and immediate needs of those developing countries that are particularly vulnerable;

12. Affirms that enhanced action on adaptation should be undertaken in accordance with the Convention, should follow a country-driven, gender-sensitive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems, and should be
based on and guided by the best available science and, as appropriate, traditional and indigenous knowledge, with a view to integrating adaptation into relevant social, economic and environmental policies and actions, where appropriate;

13. Decides to hereby establish the Cancun Adaptation Framework encompassing the provisions laid out below, with the objective of enhancing action on adaptation, including through international cooperation and coherent consideration of matters relating to adaptation under the Convention;

14. Invites all Parties to enhance action on adaptation under the Cancun Adaptation Framework, taking into account their common but differentiated responsibilities and respective capabilities, and specific national and regional development priorities, objectives and circumstances, by undertaking, inter alia, the following:
   (a) Planning, prioritizing and implementing adaptation actions, including projects and programmes (including in the areas of water resources; health; agriculture and food security; infrastructure; socioeconomic activities; terrestrial, freshwater and marine ecosystems; and coastal zones), and actions identified in national and subnational adaptation plans and strategies, national adaptation programmes of action of the least developed countries, national communications, technology needs assessments and other relevant national planning documents;
   (b) Impact, vulnerability and adaptation assessments, including assessments of financial needs as well as economic, social and environmental evaluation of adaptation options;
   (c) Strengthening institutional capacities and enabling environments for adaptation, including for climate-resilient development and vulnerability reduction;
   (d) Building resilience of socio-economic and ecological systems, including through economic diversification and sustainable management of natural resources;
   (e) Enhancing climate change related disaster risk reduction strategies, taking into consideration the Hyogo Framework for Action (<http://www.unisdr.org/eng/hfa/hfa.htm>) where appropriate, early warning systems, risk assessment and management, and sharing and transfer mechanisms such as insurance, at the local, national, subregional and regional levels, as appropriate;
   (f) Measures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate, at the national, regional and international levels;
   (g) Research, development, demonstration, diffusion, deployment and transfer of technologies, practices and processes, and capacity-building for adaptation, with a view to promoting access to technologies, in particular in developing country Parties;
   (h) Strengthening data, information and knowledge systems, education and public awareness;
   (i) Improving climate-related research and systematic observation for climate data collection, archiving, analysis and modelling in order to provide decision makers at the national and regional levels with improved climate-related data and information;

15. Decides to hereby establish a process to enable least developed country Parties to formulate and implement national adaptation plans, building upon their experience in preparing and implementing national adaptation programmes of action, as a means of identifying medium- and long-term adaptation needs and developing and implementing strategies and programmes to address those needs;

16. Invites other developing country Parties to employ the modalities formulated to support the above-mentioned national adaptation plans in the elaboration of their planning effort referred to in paragraph 14 (a) above;

17. Requests the Subsidiary Body for Implementation to elaborate modalities and guidelines for the provisions of paragraphs 15 and 16 above, for adoption by the Conference of the Parties at its seventeenth session;

18. Requests developed country Parties to provide developing country Parties, taking into account the needs of those that are particularly vulnerable, with long-term, scaled-up, predictable, new and additional finance, technology and capacity-building, consistent with relevant provisions, to implement urgent, short-, medium- and long-term adaptation actions, plans, programmes and projects at the local, national, subregional and regional levels, in and across different economic and social sectors and ecosystems, as well as to undertake the activities referred to in paragraphs 14–16 above and paragraphs 30, 32 and 33 below;
19. **Acknowledges** the need to strengthen, enhance and better utilize existing institutional arrangements and expertise under the Convention;

20. **Decides** to hereby establish an Adaptation Committee to promote the implementation of enhanced action on adaptation in a coherent manner under the Convention, inter alia, through the following functions:
   
   (a) Providing technical support and guidance to the Parties, respecting the country-driven approach, with a view to facilitating the implementation of adaptation activities, including those listed in paragraphs 14 and 15 above, where appropriate;
   
   (b) Strengthening, consolidating and enhancing the sharing of relevant information, knowledge, experience and good practices, at the local, national, regional and international levels, taking into account, as appropriate, traditional knowledge and practices;
   
   (c) Promoting synergy and strengthening engagement with national, regional and international organizations, centres and networks, in order to enhance the implementation of adaptation actions, in particular in developing country Parties;
   
   (d) Providing information and recommendations, drawing on adaptation good practices, for consideration by the Conference of the Parties when providing guidance on means to incentivize the implementation of adaptation actions, including finance, technology and capacity-building and other ways to enable climate-resilient development and reduce vulnerability, including to the operating entities of the financial mechanism of the Convention, as appropriate;
   
   (e) Considering information communicated by Parties on their monitoring and review of adaptation actions, support provided and received, possible needs and gaps and other relevant information, including information communicated under the Convention, with a view to recommending what further actions may be required, as appropriate;

21. **Invites** Parties to submit to the secretariat, by 21 February 2011, views on the composition of, and modalities and procedures for, the Adaptation Committee, including on proposed linkages with other relevant institutional arrangements;

22. **Requests** the secretariat to compile these submissions into a miscellaneous document, to be made available by the fourteenth session of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, and to prepare a synthesis report based on those submissions by the fourteenth session of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention;

23. **Requests** the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, taking into account the above-mentioned submissions and synthesis report, to elaborate the composition of, and modalities and procedures for, the Adaptation Committee, for adoption by the Conference of the Parties at its seventeenth session;

24. **Also requests** the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, in elaborating the above-mentioned modalities and procedures, to define, as appropriate, linkages with other relevant institutional arrangements under and outside the Convention, including at the national and regional levels;

25. **Recognizes** the need to strengthen international cooperation and expertise in order to understand and reduce loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events (including sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification)

26. **Decides** to hereby establish a work programme in order to consider, including through workshops and expert meetings, as appropriate, approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change;

27. **Requests** the Subsidiary Body for Implementation to agree on activities to be undertaken under the above-mentioned work programme;
28. **Invites** Parties and relevant organizations to submit to the secretariat, by 21 February 2011, views and information on what elements should be included in the work programme, including the following:
   (a) Possible development of a climate risk insurance facility to address impacts associated with severe weather events;
   (b) Options for risk management and reduction, risk sharing and transfer mechanisms such as insurance, including options for micro-insurance, and resilience building, including through economic diversification;
   (c) Approaches for addressing rehabilitation measures associated with slow onset events;
   (d) Engagement of stakeholders with relevant specialized expertise;

29. **Requests** the secretariat to compile these submissions into a miscellaneous document and to prepare a synthesis report based on those submissions, to be made available for consideration by the Subsidiary Body for Implementation at its thirty-fourth session, and with a view to making recommendations on loss and damage to the Conference of the Parties for its consideration at its eighteenth session;

30. **Invites** Parties to strengthen and, where necessary, establish regional centres and networks, in particular in developing countries, with support from developed country Parties and relevant organizations, as appropriate, and to facilitate and enhance national and regional adaptation actions, in a manner that is country-driven, encourages cooperation and coordination between regional stakeholders and improves the flow of information between the Convention process and national and regional activities;

31. **Notes** that an international centre to enhance adaptation research and coordination could also be established in a developing country;

32. **Invites** all Parties to strengthen and, where necessary, establish and/or designate national-level institutional arrangements, with a view to enhancing work on the full range of adaptation actions, from planning to implementation;

33. **Decides** that all Parties should use existing channels to provide information, as appropriate, on support provided and received for adaptation actions in developing countries and on activities undertaken, including, inter alia, progress made, experiences, lessons learned, and challenges and gaps in the delivery of support, with a view to ensuring transparency and accountability and encouraging best practices;

34. **Invites** relevant multilateral, international, regional and national organizations, the public and private sectors, civil society and other relevant stakeholders to undertake and support enhanced action on adaptation at all levels, including under the Cancun Adaptation Framework, as appropriate, in a coherent and integrated manner, building on synergies among activities and processes, and to make information available on the progress made;

35. **Requests** the secretariat to support the implementation of the Cancun Adaptation Framework, including related institutional arrangements under the Convention, in accordance with its mandate and subject to the availability of resources;

**III. Enhanced action on mitigation**

**A. Nationally appropriate mitigation commitments or actions by developed country Parties**

*Emphasizing* the need for deep cuts in global greenhouse gas emissions and early and urgent undertakings to accelerate and enhance the implementation of the Convention by all Parties, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities,

*Acknowledging* that the largest share of historical global emissions of greenhouse gases originated in developed countries and that, owing to this historical responsibility, developed country Parties must take the lead in combating climate change and the adverse effects thereof,
36. Takes note of quantified economy-wide emission reduction targets to be implemented by Parties included in Annex I to the Convention as communicated by them and contained in document FCCC/SB/2011/INF. (to be issued) (Parties’ communications to the secretariat that are included in the information document are considered communications under the Convention);

37. Urges developed country Parties to increase the ambition of their economy-wide emission reduction targets, with a view to reducing their aggregate anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol to a level consistent with the Fourth Assessment Report of the Intergovernmental Panel on Climate Change;

38. Requests the secretariat to organize workshops to clarify the assumptions and the conditions related to the attainment of these targets, including the use of carbon credits from the market-based mechanisms and land use, land-use change and forestry activities, and options and ways to increase their level of ambition;

39. Also requests the secretariat to prepare a technical paper based on Parties’ submissions with the aim of facilitating understanding of the assumptions and conditions related to the attainment of their emission reduction targets and a comparison of the level of emission reduction efforts;

40. Decides, building on existing reporting and review guidelines, processes and experiences, to enhance reporting in the national communications of Parties included in Annex I to the Convention on mitigation targets and on the provision of financial, technological and capacity-building support to developing country Parties as follows:
   (a) Developed countries should submit annual greenhouse gas inventories and inventory reports and biennial reports on their progress in achieving emission reductions, including information on mitigation actions to achieve their quantified economy-wide emission targets and emission reductions achieved, projected emissions and the provision of financial, technology and capacity-building support to developing country Parties;
   (b) Developed countries shall submit supplementary information on the achievement of quantified economy-wide emission reductions;
   (c) Developed countries shall improve the reporting of information on the provision of financial, technology and capacity-building support to developing country Parties;

41. Also decides to enhance the guidelines for the reporting of information in national communications by Parties included in Annex I to the Convention, including the development of common reporting formats and methodology for finance, in order to ensure that information provided is complete, comparable, transparent and accurate;

42. Further decides to enhance guidelines for the review of information in national communications with respect to the following:
   (a) Progress made in achieving emission reductions;
   (b) Provision of financial, technology and capacity-building support to developing country Parties;

43. Decides that developed countries should establish national arrangements for the estimation of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol;

44. Also decides to establish a process for international assessment of emissions and removals related to quantified economy-wide emission reduction targets under the Subsidiary Body for Implementation, taking into account national circumstances, in a rigorous, robust and transparent manner, with a view to promoting comparability and building confidence;

45. Further decides that developed countries should develop low-carbon development strategies or plans;

46. Decides on the following work programme for the development of modalities and guidelines described above, building on existing reporting and review guidelines, processes and experiences:
   (a) The revision of guidelines, as necessary, on the reporting of national communications, including the biennial report:
(i) The provision of financing, through enhanced common reporting formats, methodologies for finance and tracking of climate-related support;
(ii) Supplementary information on achievement of quantified economy-wide emission reduction targets;
(iii) Information on national inventory arrangements;
(b) The revision of guidelines for the review of national communications, including the biennial report, annual greenhouse gas inventories and national inventory systems;
(c) The establishment of guidelines for national inventory arrangements;
(d) Modalities and procedures for international assessment and review of emissions and removals related to quantified economy-wide emission reduction targets in accordance with paragraph 44 above, including the role of land use, land-use change and forestry, and carbon credits from market-based mechanisms, taking into account international experience;

47. Invites Parties to submit views on the items mentioned in paragraph 46 above, including with respect to the initial scheduling of the processes described in this section, by 28 March 2011;

B. Nationally appropriate mitigation actions by developing country Parties

Recognizing that developing country Parties are already contributing and will continue to contribute to a global mitigation effort in accordance with the principles and provisions of the Convention, and could enhance their mitigation actions, depending on provision of finance, technology and capacity-building support by developed country Parties,

Reaffirming that social and economic development and poverty eradication are the first and overriding priorities of developing country Parties, and that the share of global emissions originating in developing countries will grow to meet their social and development needs,

48. Agrees that developing country Parties will take nationally appropriate mitigation actions in the context of sustainable development, supported and enabled by technology, financing and capacity-building, aimed at achieving a deviation in emissions relative to 'business as usual' emissions in 2020;

49. Takes note of nationally appropriate mitigation actions to be implemented by Parties not included in Annex I to the Convention as communicated by them and contained in document FCCC/AWGLCA/2011/INF.1 (Parties' communications to the secretariat that are included in the information document are considered communications under the Convention.);

50. Invites developing countries that wish to voluntarily inform the Conference of the Parties of their intention to implement nationally appropriate mitigation actions in association with this decision to submit information on those actions to the secretariat;

51. Requests the secretariat to organize workshops to understand the diversity of mitigation actions submitted, underlying assumptions and any support needed for the implementation of these actions, noting different national circumstances and the respective capabilities of developing country Parties;

52. Decides that, in accordance with Article 4, paragraph 3, of the Convention, developed country Parties shall provide enhanced financial, technological and capacity building support for the preparation and implementation of nationally appropriate mitigation actions of developing country Parties and for enhanced reporting by these Parties;

53. Also decides to set up a registry to record nationally appropriate mitigation actions seeking international support and to facilitate matching of finance, technology and capacity-building support for these actions;

54. Invites developing country Parties to submit to the secretariat information on nationally appropriate mitigation actions for which they are seeking support, along with estimated costs and emission reductions, and the anticipated time frame for implementation;
55. Also invites developed country Parties to submit to the secretariat information on support available and provided for nationally appropriate mitigation actions;

56. Requests the secretariat to record and regularly update in the registry the information provided by Parties on:
   (a) Nationally appropriate mitigation actions seeking international support;
   (b) Support available from developed country Parties for these actions;
   (c) Support provided for nationally appropriate mitigation actions;

57. Agrees to develop modalities for the facilitation of support through the registry referred to in paragraph 53 above, including any functional relationship with the financial mechanism;

58. Decides to recognize nationally appropriate mitigation actions of developing countries in a separate section of the registry;

59. Requests the secretariat to record, and regularly update, in a separate section of the registry, information submitted by Parties on the following:
   (a) Mitigation actions contained in document FCCC/AWGLCA/2011/INF.1;
   (b) Additional mitigation actions submitted in association with paragraph 50 above;
   (c) Once support has been provided, internationally supported mitigation actions and associated support;

60. Decides to enhance reporting in national communications, including inventories, from Parties not included in Annex I to the Convention on mitigation actions and their effects, and support received, with additional flexibility to be given to the least developed country Parties and small island developing States:
   (a) The content and frequency of national communications from Parties not included in Annex I to the Convention will not be more onerous than that for Parties included in Annex I to the Convention;
   (b) Parties not included in Annex I to the Convention should submit their national communications to the Conference of the Parties, in accordance with Article 12, paragraph 1, of the Convention, every four years or in accordance with any further decisions on frequency by the Conference of the Parties, taking into account a differentiated timetable and the prompt provision of financial resources to cover the agreed full costs incurred by Parties not included in Annex I to the Convention in preparing their national communications;
   (c) Developing countries, consistent with their capabilities and the level of support provided for reporting, should also submit biennial update reports containing updates of national greenhouse gas inventories, including a national inventory report and information on mitigation actions, needs and support received;

61. Also decides that internationally supported mitigation actions will be measured, reported and verified domestically and will be subject to international measurement, reporting and verification in accordance with guidelines to be developed under the Convention;

62. Further decides that domestically supported mitigation actions will be measured, reported and verified domestically in accordance with general guidelines to be developed under the Convention;

63. Decides to conduct international consultations and analysis of biennial reports under the Subsidiary Body for Implementation, in a manner that is non-intrusive, non-punitive and respectful of national sovereignty; the international consultations and analysis will aim to increase transparency of mitigation actions and their effects, through analysis by technical experts in consultation with the Party concerned and through a facilitative sharing of views, and will result in a summary report;

64. Also decides that information considered should include the national greenhouse gas inventory report, information on mitigation actions, including a description, analysis of the impacts and associated methodologies and assumptions, progress in implementation and information on domestic measurement, reporting and verification, and support received; discussion about the appropriateness of such domestic policies and measures is not part of the process; discussions should be intended to provide transparency of information related to unsupported actions;
65. **Encourages** developing countries to develop low-carbon development strategies or plans in the context of sustainable development;

66. **Agrees** on a work programme for the development of modalities and guidelines for: facilitation of support to nationally appropriate mitigation actions through a registry; measurement, reporting and verification of supported actions and corresponding support; biennial reports as part of national communications from Parties not included in Annex I to the Convention; domestic verification of mitigation actions undertaken with domestic resources; and international consultations and analysis;

67. **Invites** Parties to submit views on the items mentioned in paragraph 66 above, including with respect to the initial scheduling of the processes described in this section, by 28 March 2011;

**C. Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries**

**Affirming** that, in the context of the provision of adequate and predictable support to developing country Parties, Parties should collectively aim to slow, halt and reverse forest cover and carbon loss, in accordance with national circumstances, consistent with the ultimate objective of the Convention, as stated in Article 2,

**Also affirming** the need to promote broad country participation in all phases described in paragraph 73 below, including through the provision of support that takes into account existing capacities,

68. **Encourages** all Parties to find effective ways to reduce the human pressure on forests that results in greenhouse gas emissions, including actions to address drivers of deforestation;

69. **Affirms** that the implementation of the activities referred to in paragraph 70 below should be carried out in accordance with appendix I to this decision, and that the safeguards referred to in paragraph 2 of appendix I to this decision should be promoted and supported;

70. **Encourages** developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities, as deemed appropriate by each Party and in accordance with their respective capabilities and national circumstances:

(a) Reducing emissions from deforestation;
(b) Reducing emissions from forest degradation;
(c) Conservation of forest carbon stocks;
(d) Sustainable management of forests;
(e) Enhancement of forest carbon stocks;

71. **Requests** developing country Parties aiming to undertake the activities referred to in paragraph 70 above, in the context of the provision of adequate and predictable support, including financial resources and technical and technological support to developing country Parties, in accordance with national circumstances and respective capabilities, to develop the following elements:

(a) A national strategy or action plan;
(b) A national forest reference emission level and/or forest reference level (in accordance with national circumstances, national forest reference emission levels and/or forest reference levels could be a combination of subnational forest reference emissions levels and/or forest reference levels) or, if appropriate, as an interim measure, subnational forest reference emission levels and/or forest reference levels, in accordance with national circumstances, and with provisions contained in decision 4/CP.15, and with any further elaboration of those provisions adopted by the Conference of the Parties;
(c) A robust and transparent national forest monitoring system for the monitoring and reporting of the activities referred to in paragraph 70 above, with, if appropriate, subnational monitoring and reporting as an interim measure (including monitoring and reporting of emissions displacement at the national level, if appropriate, and reporting on how displacement of emissions is being addressed, and on the means to integrate subnational monitoring systems into a national monitoring system) in accordance with national circumstances, and
with the provisions contained in decision 4/CP.15, and with any further elaboration of those provisions agreed by the Conference of the Parties;

(d) A system for providing information on how the safeguards referred to in appendix I to this decision are being addressed and respected throughout the implementation of the activities referred to in paragraph 70 above, while respecting sovereignty;

72. Also requests developing country Parties, when developing and implementing their national strategies or action plans, to address, inter alia, the drivers of deforestation and forest degradation, land tenure issues, forest governance issues, gender considerations and the safeguards identified in paragraph 2 of appendix I to this decision, ensuring the full and effective participation of relevant stakeholders, inter alia indigenous peoples and local communities;

73. Decides that the activities undertaken by Parties referred to in paragraph 70 above should be implemented in phases, beginning with the development of national strategies or action plans, policies and measures, and capacity-building, followed by the implementation of national policies and measures and national strategies or action plans that could involve further capacity-building, technology development and transfer and results-based demonstration activities, and evolving into results-based actions that should be fully measured, reported and verified;

74. Recognizes that the implementation of the activities referred to in paragraph 70 above, including the choice of a starting phase as referred to in paragraph 73 above, depends on the specific national circumstances, capacities and capabilities of each developing country Party and the level of support received;

75. Requests the Subsidiary Body for Scientific and Technological Advice to develop a work programme on the matters referred to in appendix II to this decision;

76. Urges Parties, in particular developed country Parties, to support, through multilateral and bilateral channels, the development of national strategies or action plans, policies and measures and capacity-building, followed by the implementation of national policies and measures and national strategies or action plans that could involve further capacity-building, technology development and transfer and results-based demonstration activities, including consideration of the safeguards referred to in paragraph 2 of appendix I to this decision, taking into account the relevant provisions on finance including those relating to reporting on support;

77. Requests the Ad Hoc Working Group on Long-term Cooperative Action under the Convention to explore financing options for the full implementation of the results-based actions (These actions require national monitoring systems) referred to in paragraph 73 above and to report on progress made, including any recommendations for draft decisions on this matter, to the Conference of the Parties at its seventeenth session;

78. Also requests Parties to ensure coordination of the activities referred to in paragraph 70 above, including of the related support, particularly at the national level;

79. Invites relevant international organizations and stakeholders to contribute to the activities referred to in paragraphs 70 and 78 above;

D. Various approaches, including opportunities for using markets, to enhance the cost-effectiveness of, and to promote, mitigation actions, bearing in mind different circumstances of developed and developing countries

Acknowledging the need to maintain consistency with the principles of the Convention,

Emphasizing the importance of contributing to sustainable development, including through technology transfer and other co-benefits,

Recognizing the importance of enhancing sustainable lifestyles and patterns of production and consumption,

Aware of the need to provide incentives in support of low-emission development strategies,
80. Decides to consider the establishment, at the seventeenth session of the Conference of the Parties, of one or more market-based mechanisms to enhance the cost-effectiveness of, and to promote, mitigation actions, taking into account the following:
   (a) Ensuring voluntary participation of Parties, supported by the promotion of fair and equitable access for all Parties;
   (b) Complementing other means of support for nationally appropriate mitigation actions by developing country Parties;
   (c) Stimulating mitigation across broad segments of the economy;
   (d) Safeguarding environmental integrity;
   (e) Ensuring a net decrease and/or avoidance of global greenhouse gas emissions;
   (f) Assisting developed country Parties to meet part of their mitigation targets, while ensuring that the use of such a mechanism or mechanisms is supplemental to domestic mitigation efforts;
   (g) Ensuring good governance and robust market functioning and regulation;

81. Requests the Ad Hoc Working Group on Long-term Cooperative Action under the Convention to elaborate the mechanism or mechanisms referred to in paragraph 80 above, with a view to recommending a draft decision or decisions to the Conference of the Parties for consideration at its seventeenth session;

82. Invites Parties and accredited observer organizations to submit to the secretariat, by 21 February 2011, their views on the matters referred to in paragraph 81 above;

83. Undertakes, in developing and implementing the mechanism or mechanisms referred to in paragraph 80 above, to maintain and build upon existing mechanisms, including those established under the Kyoto Protocol;

84. Decides to consider the establishment, at the seventeenth session of the Conference of the Parties, of one or more non-market-based mechanisms to enhance the cost-effectiveness of, and to promote, mitigation actions;

85. Requests the Ad Hoc Working Group on Long-term Cooperative Action under the Convention to elaborate the mechanism or mechanisms referred to in paragraph 84 above, with a view to recommending a draft decision or decisions to the Conference of the Parties for consideration at its seventeenth session;

86. Invites Parties and accredited observer organizations to submit to the secretariat, by 21 February 2011, their views on the matters referred to in paragraph 85 above;

87. Also invites Parties and accredited observer organizations to submit to the secretariat, by 21 February 2011, information on the evaluation of various approaches in enhancing the cost-effectiveness of, and promoting, mitigation actions, including activities implemented jointly under Article 4, paragraph 2(a), of the Convention and any other relevant activities, for synthesis by the secretariat;

E. Economic and social consequences of response measures

Reaffirming the importance of the objective of the Convention, and the relevant principles and provisions of the Convention related to economic and social consequences of response measures, in particular its Articles 2, 3 and 4,

Recognizing that the implementation of response measures to mitigate climate change taken by a Party may result in negative economic and social consequences for other Parties, and the need to 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 impact of the implementation of measures to respond to climate change, referred to in Article 4, paragraphs 8, 9 and 10, of the Convention,
Affirming that responses to climate change should be coordinated with social and economic development in an integrated manner, with a view to avoiding adverse impacts on the latter, taking fully into account the legitimate priority needs of developing country Parties for the achievement of sustained economic growth and the eradication of poverty, and the consequences for vulnerable groups, in particular women and children,

Recognizing the importance of avoiding or minimizing negative impacts of response measures on social and economic sectors, promoting a just transition of the workforce, the creation of decent work and quality jobs in accordance with nationally defined development priorities and strategies, and contributing to building new capacity for both production and service-related jobs in all sectors, promoting economic growth and sustainable development,

Taking note of relevant provisions of the United Nations Declaration on the Rights of Indigenous Peoples,

88. Urges Parties, in the implementation of measures to mitigate climate change, to take into consideration the economic and social impacts of response measures and the needs of Parties, in particular developing country Parties, impacted by response measures, consistent with relevant provisions of the Convention;

89. Also urges developed country Parties to strive to implement policies and measures to respond to climate change in such a way as to avoid negative social and economic consequences for developing country Parties, taking into account Article 3 of the Convention, and to assist these Parties to address such consequences by providing support, including financial resources, transfer of technology and capacity-building, in accordance with Article 4 of the Convention, to build up the resilience of societies and economies negatively affected by response measures;

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

91. Agrees that information relating to response measures should be considered in a structured manner in order to enhance the implementation of Article 4, paragraph 1(g) and (h), of the Convention, recognizing the needs of developing country Parties identified in Article 4, paragraphs 8, 9 and 10;

92. Decides that Parties should cooperate fully to enhance understanding of the economic and social consequences of response measures, taking into account the need for information from those affected, and evidence of actual impacts, and of both positive and negative effects; and further decides to consider how existing channels, such as national communications, including the possible submission of supplementary information, as considered by the Subsidiary Body for Implementation, could be improved and built upon;

93. Further decides to provide a forum on the impact of the implementation of response measures, and to that end requests the Chairs of the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation to convene such a forum at the thirty-fourth and thirty-fifth sessions of these bodies, with the objective of developing a work programme under the subsidiary bodies to address these impacts, with a view to adopting, at the seventeenth session of the Conference of the Parties, modalities for the operationalization of the work programme and a possible forum on response measures;

94. Invites Parties and relevant intergovernmental organizations to submit to the secretariat, by 28 March 2011, their views on the issues referred to in paragraph 93 above for consideration by the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation at their thirty-fourth sessions;
IV. Finance, technology and capacity-building

A. Finance

95. Takes note of the collective commitment by developed countries to provide new and additional resources, including forestry and investments through international institutions, approaching USD 30 billion for the period 2010–2012, with a balanced allocation between adaptation and mitigation; funding for adaptation will be prioritized for the most vulnerable developing countries, such as the least developed countries, small island developing States and Africa;

96. Invites, in order to enhance transparency, developed country Parties to submit to the secretariat for compilation into an information document, by May 2011, 2012 and 2013, information on the resources provided to fulfill the commitment referred to in paragraph 95 above, including ways in which developing country Parties access these resources;

97. Decides that, in accordance with the relevant provisions of the Convention, scaled up, new and additional, predictable and adequate funding shall be provided to developing country Parties, taking into account the urgent and immediate needs of developing countries that are particularly vulnerable to the adverse effects of climate change;

98. Recognizes that developed country Parties commit, in the context of meaningful mitigation actions and transparency on implementation, to a goal of mobilizing jointly USD 100 billion per year by 2020 to address the needs of developing countries;

99. Agrees that, in accordance with paragraph 1(e) of the Bali Action Plan, funds provided to developing country Parties may come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources;

100. Decides that a significant share of new multilateral funding for adaptation should flow through the Green Climate Fund, referred to in paragraph 102 below;

101. Takes note of the relevant reports on the financing needs and options for the mobilization of resources to address the needs of developing country Parties with regard to climate change adaptation and mitigation, including the report of the High-level Advisory Group on Climate Change Financing;

102. Decides to establish a Green Climate Fund, to be designated as an operating entity of the financial mechanism of the Convention under Article 11, with arrangements to be concluded between the Conference of the Parties and the Green Climate Fund to ensure that it is accountable to and functions under the guidance of the Conference of the Parties, to support projects, programmes, policies and other activities in developing country Parties using thematic funding windows;

103. Also decides that the Fund shall be governed by a Board of 24 members, comprising an equal number of members from developing and developed country Parties; representation from developing country Parties shall include representatives of relevant United Nations regional groupings and representatives of small island developing States and the least developed countries; each Board member shall have an alternate member; with alternate members entitled to participate in the meetings of the board only through the principal member, without the right to vote, unless they are serving as the member; during the absence of the member from all or part of a meeting of the Board, his or her alternate shall serve as the member;

104. Further decides that the Green Climate Fund shall have a trustee; the trustee for the Green Climate Fund shall have the administrative competence to manage the financial assets of the Green Climate Fund, maintain appropriate financial records and prepare financial statements and other reports required by the Board of the Green Climate Fund, in accordance with internationally accepted fiduciary standards;

105. Decides that the trustee shall administer the assets of the Green Climate Fund only for the purpose of, and in accordance with, the relevant decisions of the Green Climate Fund Board; the trustee shall hold the assets of the Green Climate Fund separate and apart from the assets of the trustee, but may commingle them for administrative and investment purposes with other assets maintained by the trustee; and the trustee shall establish and maintain separate records and accounts to identify the assets of the Green Climate Fund;
106. **Decides** that the trustee shall be accountable to the Green Climate Fund Board for the performance of its fiduciary responsibilities;

107. **Invites** the World Bank to serve as the interim trustee for the Green Climate Fund, subject to a review three years after operationalization of the Fund;

108. **Decides** that the operation of the Fund shall be supported by an independent secretariat;

109. **Also decides** that the Green Climate Fund shall be designed by a Transitional Committee in accordance with the terms of reference contained in appendix III to this decision; the Transitional Committee shall have 40 members, with 15 members from developed country Parties and 25 members from developing country Parties as follows:

   (a) Seven members from Africa;
   (b) Seven members from Asia;
   (c) Seven members from Group of Latin America and the Caribbean;
   (d) Two members from small island developing States;
   (e) Two members from the least developed countries;

110. **Invites** the Executive Secretary of the secretariat, in consultation with the President of the Conference of the Parties, to convene the initial meeting of the Transitional Committee, with members having the necessary experience and skills, notably in the area of finance and climate change; the meetings of the Transitional Committee will be open to observers;

111. **Requests** the secretariat, in consultation with the President of the Conference of the Parties, to make arrangements enabling relevant United Nations agencies, international financial institutions and multilateral development banks, along with the secretariat and the Global Environment Facility, to second staff to support the work of the Transitional Committee for the design phase of the Green Climate Fund;

112. **Decides** to establish a Standing Committee under the Conference of the Parties to assist the Conference of the Parties in exercising its functions with respect to the financial mechanism of the Convention in terms of improving coherence and coordination in the delivery of climate change financing, rationalization of the financial mechanism, mobilization of financial resources and measurement, reporting and verification of support provided to developing country Parties; Parties agree to further define the roles and functions of this Standing Committee;

**B. Technology development and transfer**

Recalling the commitments under the Convention, in particular Article 4, paragraphs 1, 3, 5, 7, 8 and 9,

**Confirming** the importance of promoting and enhancing national and international cooperative action on the development and transfer of environmentally sound technologies to developing country Parties to support action on mitigation and adaptation now, up to and beyond 2012, in order to achieve the ultimate objective of the Convention,

**Recognizing** that an early and rapid reduction in emissions and the urgent need to adapt to the adverse impacts of climate change require large-scale diffusion and transfer of, or access to, environmentally sound technologies,

**Stressing** the need for effective mechanisms, enhanced means, appropriate enabling environments and the removal of obstacles to the scaling up of the development and transfer of technology to developing country Parties,

113. **Decides** that the objective of enhanced action on technology development and transfer is to support action on mitigation and adaptation in order to achieve the full implementation of the Convention;

114. **Also decides** that, in pursuit of this objective, technology needs must be nationally determined, based on national circumstances and priorities;
115. **Further decides** to accelerate action consistent with international obligations, at different stages of the technology cycle, including research and development, demonstration, deployment, diffusion and transfer of technology (hereinafter referred in this decision as technology development and transfer) in support of action on mitigation and adaptation;

116. **Encourages** Parties, in the context of Article 4, paragraphs 1(c) and 5, of the Convention and consistent with their respective capabilities and national circumstances and priorities, to undertake domestic actions identified through country-driven approaches, to engage in bilateral and multilateral cooperative activities on technology development and transfer and to increase private and public research, development and demonstration in relation to technologies for mitigation and adaptation;

117. **Decides** to establish a Technology Mechanism to facilitate the implementation of actions for achieving the objective referred to in paragraphs 113–115 above, under the guidance of and accountable to the Conference of the Parties, which will consist of the following components:

   (a) A Technology Executive Committee, to undertake the functions contained in paragraph 121 below;
   (b) A Climate Technology Centre and Network, to undertake the functions contained in paragraph 123 below;

118. **Also decides** that the Technology Executive Committee and the Climate Technology Centre and Network, consistent with their respective functions, should facilitate the effective implementation of the Technology Mechanism, under the guidance of the Conference of the Parties;

119. **Further decides** that the Technology Executive Committee shall further implement the framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention adopted by decision 4/CP.7 and enhanced by decision 3/CP.13;

120. **Decides** that priority areas that could be considered under the Convention may include:

   (a) Development and enhancement of the endogenous capacities and technologies of developing country Parties, including cooperative research, development and demonstration programmes;
   (b) Deployment and diffusion of environmentally sound technologies and knowhow in developing country Parties;
   (c) Increased public and private investment in technology development, deployment, diffusion and transfer;
   (d) Deployment of soft and hard technologies for the implementation of adaptation and mitigation actions;
   (e) Improved climate change observation systems and related information management;
   (f) Strengthening of national systems of innovation and technology innovation centres;
   (g) Development and implementation of national technology plans for mitigation and adaptation;

121. **Also decides** that the functions of the Technology Executive Committee shall be to:

   (a) Provide an overview of technological needs and analysis of policy and technical issues related to the development and transfer of technologies for mitigation and adaptation;
   (b) Consider and recommend actions to promote technology development and transfer, in order to accelerate action on mitigation and adaptation;
   (c) Recommend guidance on policies and programme priorities related to technology development and transfer with special consideration given to the least developed country Parties;
   (d) Promote and facilitate collaboration on the development and transfer of technologies for mitigation and adaptation between governments, the private sector, nonprofit organizations and academic and research communities;
   (e) Recommend actions to address the barriers to technology development and transfer in order to enable enhanced action on mitigation and adaptation;
   (f) Seek cooperation with relevant international technology initiatives, stakeholders and organizations, and promote coherence and cooperation across technology activities, including activities under and outside of the Convention;
   (g) Catalyse the development and use of technology road maps or action plans at the international, regional and national levels through cooperation between relevant
stakeholders, particularly governments and relevant organizations or bodies, including the development of best practice guidelines as facilitative tools for action on mitigation and adaptation;

122. **Further decides** that the Technology Executive Committee shall have the mandate and composition as contained in appendix IV to this decision;

123. **Decides** that the Climate Technology Centre shall facilitate a network of national, regional, sectoral and international technology networks, organizations and initiatives with a view to engaging the participants of the Network effectively in the following functions:
   (a) At the request of a developing country Party:
      (i) Providing advice and support related to the identification of technology needs and the implementation of environmentally sound technologies, practices and processes;
      (ii) Facilitating the provision of information, training and support for programmes to build or strengthen capacity of developing countries to identify technology options, make technology choices and operate, maintain and adapt technology;
      (iii) Facilitating prompt action on the deployment of existing technology in developing country Parties based on identified needs;
   (b) Stimulating and encouraging, through collaboration with the private sector, public institutions, academia and research institutions, the development and transfer of existing and emerging environmentally sound technologies, as well as opportunities for North–South, South–South and triangular technology cooperation;
   (c) Facilitating a network of national, regional, sectoral and international technology centres, networks, organization and initiatives with a view to:
      (i) Enhancing cooperation with national, regional and international technology centres and relevant national institutions;
      (ii) Facilitating international partnerships among public and private stakeholders to accelerate the innovation and diffusion of environmentally sound technologies to developing country Parties;
      (iii) Providing, at the request of a developing country Party, in-country technical assistance and training to support identified technology actions in developing country Parties;
      (iv) Stimulating the establishment of twinning centre arrangements to promote North–South, South–South and triangular partnerships, with a view to encouraging cooperative research and development;
      (v) Identifying, disseminating and assisting with developing analytical tools, policies and best practices for country-driven planning to support the dissemination of environmentally sound technologies;
   (d) Performing other such activities as may be necessary to carry out its functions;

124. **Also decides** to terminate the mandate of the Expert Group on Technology Transfer at the conclusion of the sixteenth session of the Conference of the Parties;

125. **Further decides** that the Technology Executive Committee shall convene its first meeting as soon as practicable following the election of its members and shall elaborate its modalities and procedures taking into account the need to achieve coherence and maintain interactions with other relevant institutional arrangements under and outside of the Convention, for consideration by the Conference of the Parties at its seventeenth session;

126. **Decides** that the Technology Executive Committee and the Climate Technology Centre and Network shall report, on an interim basis (Until there is a decision on the issues contained in paragraph 128 (a) below) and without prejudice to the relationship between the Technology Executive Committee and the Climate Technology Centre and Network as referred to in paragraph 128 (a) below to the Conference of the Parties, through the subsidiary bodies, on their respective activities and the performance of their respective functions;

127. **Also decides** that the Climate Technology Centre and Network and the Technology Executive Committee shall relate so as to promote coherence and synergy;

**Work programme for the Ad Hoc Working Group on Long-term Cooperative Action under the Convention in 2011 on technology development and transfer**
128. **Underlines** the importance of continued dialogue among Parties in 2011 through the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, including on the following matters, with a view to the Conference of the Parties taking a decision at its seventeenth session, in order to make the Technology Mechanism fully operational in 2012:

(a) The relationship between the Technology Executive Committee and the Climate Technology Centre and Network, and their reporting lines;

(b) The governance structure of and terms of reference for the Climate Technology Centre and Network and how the Climate Technology Centre will relate to the Network, drawing upon the results of the workshop referred to in paragraph 129 below;

(c) The procedure for calls for proposals and the criteria to be used to evaluate and select the host of the Climate Technology Centre and Network;

(d) The potential links between the Technology Mechanism and the financial mechanism;

(e) Consideration of additional functions for the Technology Executive Committee and the Climate Technology Centre and Network;

129. **Requests** the Ad Hoc Working Group on Long-term Cooperative Action under the Convention to convene an expert workshop, in conjunction with one of its sessions in 2011, on the matters contained in paragraph 128 above, drawing upon the preliminary work undertaken by the Expert Group on Technology Transfer, and to report on the results of this workshop at that session;

### C. Capacity-building

**Reaffirming** that capacity-building is essential to enable developing country Parties to participate fully in addressing the challenges of climate change, and to implement effectively their commitments under the Convention,

**Recalling** the provisions related to capacity-building for developing country Parties contained in relevant decisions adopted by the Conference of the Parties, especially decision 2/CP.7,

**Taking into account** that the scope of capacity-building and related needs as contained in the annex to decision 2/CP.7 and the key factors identified in decision 2/CP.10 remain valid,

**Acknowledging** that capacity-building is cross-cutting in nature and an integral part of enhanced action on mitigation, adaptation, technology development and transfer, and access to financial resources,

Also acknowledging that, in addition, there may be specific capacity-building activities that require support to enable developing countries to undertake the enhanced implementation of the Convention,

**Reaffirming** that capacity-building should be a continuous, progressive and iterative process that is participatory, country-driven and consistent with national priorities and circumstances,

130. **Decides** that capacity-building support to developing country Parties should be enhanced with a view to strengthening endogenous capacities at the subnational, national or regional levels, as appropriate, taking into account gender aspects, to contribute to the achievement of the full, effective and sustained implementation of the Convention, by, inter alia:

(a) Strengthening relevant institutions at various levels, including focal points and national coordinating bodies and organizations;

(b) Strengthening networks for the generation, sharing and management of information and knowledge, including through North–South, South–South and triangular cooperation;

(c) Strengthening climate change communication, education, training and public awareness at all levels;

(d) Strengthening integrated approaches and the participation of various stakeholders in relevant social, economic and environmental policies and actions;

(e) Supporting existing and emerging capacity-building needs identified in the areas of mitigation, adaptation, technology development and transfer, and access to financial resources;

131. Also decides that financial resources for enhanced action on capacity-building in developing country Parties should be provided by Parties included in Annex II to the Convention and other Parties in a position to do so through the current and any future operating entities of the financial
mechanism, as well as through various bilateral, regional and other multilateral channels, as appropriate;

132. Encourages developed country Parties to continue to report through their national communications, in accordance with the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications”, on the support they have provided for capacity-building in developing country Parties;

133. Invites developed country Parties in a position to do so to provide information, through annual submissions to the secretariat and other appropriate channels, on the support they have provided for capacity-building in developing country Parties;

134. Encourages developing country Parties to continue to report through their national communications, in accordance with the “Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention”, on progress made in enhancing their capacity to address climate change, including on the use of the support received;

135. Invites developing country Parties in a position to do so to provide information, through annual submissions to the secretariat and other appropriate channels, on progress made in enhancing their capacity to address climate change, including on the use of the support received;

136. Requests the Ad Hoc Working Group on Long-term Cooperative Action under the Convention to consider ways to further enhance the monitoring and review of the effectiveness of capacity-building, for consideration by the Conference of the Parties at its seventeenth session;

137. Also requests the Ad Hoc Working Group on Long-term Cooperative Action under the Convention to further elaborate the modalities regarding institutional arrangements for capacity-building, for consideration by the Conference of the Parties at its seventeenth session;

V. Review

138. Decides to periodically review the adequacy of the long-term global goal referred to in paragraph 4 above, in the light of the ultimate objective of the Convention, and overall progress towards achieving it, in accordance with the relevant principles and provisions of the Convention;

139. Also decides that:
   (a) This review should be guided by the principles of equity, and common but differentiated responsibilities and respective capabilities and take into account, inter alia:
      (i) The best available scientific knowledge, including the assessment reports of the Intergovernmental Panel on Climate Change;
      (ii) Observed impacts of climate change;
      (iii) An assessment of the overall aggregated effect of the steps taken by Parties in order to achieve the ultimate objective of the Convention;
      (iv) Consideration of strengthening the long-term global goal, referencing various matters presented by the science, including in relation to temperature rises of 1.5°C;
   (b) The first review should start in 2013 and should be concluded by 2015;
   (c) The Conference of the Parties shall take appropriate action based on the review;

140. Requests the Ad Hoc Working Group on Long-term Cooperative Action under the Convention to further define the scope of this review and develop its modalities, including the required inputs, with a view to their adoption by the Conference of the Parties at its seventeenth session;

VI. Other matters

Parties included in Annex I to the Convention undergoing the process of transition to a market economy

Recalling Article 4, paragraph 6, of the Convention and relevant decisions of the Conference of the Parties, especially decisions 3/CP.7 and 3/CP.13 relating to Parties included in Annex I to the Convention undergoing the process of transition to a market economy,
Noting that Parties included in Annex I to the Convention undergoing the process of transition to a market economy are not included in Annex II to the Convention and as such are not subject to the provisions of Article 4, paragraphs 3 and 4, of the Convention,

Recalling that Article 4, paragraph 6, of the Convention provides that a certain degree of flexibility shall be allowed by the Conference of the Parties to Parties included in Annex I to the Convention undergoing the process of transition to a market economy,

Taking note of the submissions from Parties contained in document FCCC/AWGLCA/2010/MISC.6/Add.2,

141. Requests the Ad Hoc Working Group on Long-term Cooperative Action under the Convention to continue consideration of these issues with a view to promoting access by Parties included in Annex I to the Convention undergoing the process of transition to a market economy to technology, capacity-building and finance in order to enhance their ability to develop low-emission economies;

Parties included in Annex I to the Convention whose special circumstances are recognized by the Conference of the Parties

Recalling decision 26/CP.7 that amended the list in Annex II to the Convention by deleting the name of Turkey,

Recalling decision 26/CP.7 that invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Parties included in Annex I to the Convention,

Recognizing that Turkey is in a situation different from that of other Parties included in Annex I to the Convention,

Noting that Turkey is not included in Annex II to the Convention and as such is not subject to the commitments of Article 4, paragraphs 3–5, of the Convention and that Turkey is eligible for support under Article 4, paragraph 5, of the Convention,

Taking note of the submission from Turkey contained in document FCCC/AWGLCA/2010/MISC.8,

142. Requests the Ad Hoc Working Group on Long-term Cooperative Action under the Convention to continue consideration of these issues with a view to promoting access by Turkey to finance, technology and capacity-building in order to enhance its ability to better implement the Convention;

VII. Extension of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention

143. Decides to extend the Ad Hoc Working Group on Long-term Cooperative Action under the Convention for one year, in order for it to continue its work with a view to carrying out the undertakings contained in this decision and present the results to the Conference of the Parties for consideration at its seventeenth session;

144. Requests the Ad Hoc Working Group on Long-term Cooperative Action under the Convention to continue its work drawing on the documents under its consideration;

145. Also requests the Ad Hoc Working Group on Long-term Cooperative Action under the Convention to continue discussing legal options with the aim of completing an agreed outcome based on decision 1/CP.13 (Bali Action Plan), the work done at the sixteenth session of the Conference of the Parties and proposals made by Parties under Article 17 of the Convention;

146. Further requests the secretariat to make the necessary arrangements in accordance with any guidance from the Bureau of the Conference of the Parties;

147. Mandates the host country of the next session of the Conference of the Parties to undertake inclusive and transparent consultations in order to facilitate the work towards the success of that session.
**Appendix I**

**Guidance and safeguards for policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries**

1. The activities referred to in paragraph 70 of this decision should:
   (a) Contribute to the achievement of the objective set out in Article 2 of the Convention;
   (b) Contribute to the fulfilment of the commitments set out in Article 4, paragraph 3, of the Convention;
   (c) Be country-driven and be considered options available to Parties;
   (d) Be consistent with the objective of environmental integrity and take into account the multiple functions of forests and other ecosystems;
   (e) Be undertaken in accordance with national development priorities, objectives and circumstances and capabilities and should respect sovereignty;
   (f) Be consistent with Parties’ national sustainable development needs and goals;
   (g) Be implemented in the context of sustainable development and reducing poverty, while responding to climate change;
   (h) Be consistent with the adaptation needs of the country;
   (i) Be supported by adequate and predictable financial and technology support, including support for capacity-building;
   (j) Be results-based;
   (k) Promote sustainable management of forests;

2. When undertaking the activities referred to in paragraph 70 of this decision, the following safeguards should be promoted and supported:
   (a) That actions complement or are consistent with the objectives of national forest programmes and relevant international conventions and agreements;
   (b) Transparent and effective national forest governance structures, taking into account national legislation and sovereignty;
   (c) Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples;
   (d) The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of this decision;
   (e) That actions are consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70 of this decision are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits (Taking into account the need for sustainable livelihoods of indigenous peoples and local communities and their interdependence on forests in most countries, reflected in the United Nations Declaration on the Rights of Indigenous Peoples, as well as the International Mother Earth Day);
   (f) Actions to address the risks of reversals;
   (g) Actions to reduce displacement of emissions.
Appendix II

Work programme of the Subsidiary Body for Scientific and Technological Advice on policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries

In the development of its work programme, the Subsidiary Body for Scientific and Technological Advice is requested to:

(a) Identify land use, land-use change and forestry activities in developing countries, in particular those that are linked to the drivers of deforestation and forest degradation, identify the associated methodological issues to estimate emissions and removals resulting from these activities, and assess the potential contribution of these activities to the mitigation of climate change, and report on the findings and outcomes of this work to the Conference of the Parties (COP) at its eighteenth session on the outcomes of the work referred to in this paragraph;

(b) Develop modalities relating to paragraphs 71 (b) and (c) and guidance relating to paragraph 71 (d) of this decision, for consideration by the COP at its seventeenth session;

(c) Develop, as necessary, modalities for measuring, reporting and verifying anthropogenic forest-related emissions by sources and removals by sinks, forest carbon stocks, and forest carbon stock and forest-area changes resulting from the implementation of the activities referred to in paragraph 70 of this decision, consistent with any guidance on measuring, reporting and verifying nationally appropriate mitigation actions by developing country Parties agreed by the COP, taking into account methodological guidance in accordance with decision 4/CP.15, for consideration by the COP at its seventeenth session.
Appendix III

Terms of reference for the design of the Green Climate Fund

1. The Transitional Committee shall develop and recommend to the Conference of the Parties for its approval at its seventeenth session operational documents that address, inter alia:
   (a) The legal and institutional arrangements for the establishment and operationalization of the Green Climate Fund;
   (b) The rules of procedure of the Green Climate Fund Board and other governance issues related to the Board;
   (c) Methods to manage the large scale of financial resources from a number of sources and deliver through a variety of financial instruments, funding windows and access modalities, including direct access, with the objective of achieving a balanced allocation between adaptation and mitigation;
   (d) The financial instruments that the Fund can use to achieve its priorities;
   (e) Methods to enhance complementarity between the Fund’s activities and those of other bilateral, regional and multilateral funding mechanisms and institutions;
   (f) The role of the Fund’s secretariat and the procedure for selecting and/or establishing the secretariat;
   (g) A mechanism to ensure periodic independent evaluation of the Fund’s performance;
   (h) Mechanisms to ensure financial accountability and to evaluate the performance of activities supported by the Fund, in order to ensure the application of environmental and social safeguards as well as internationally accepted fiduciary standards and sound financial management to the Fund’s activities;
   (i) Mechanisms to ensure the provision of appropriate expert and technical advice, including from relevant thematic bodies established under the Convention;
   (j) Mechanisms to ensure stakeholder input and participation.

2. In the conduct of its work, the Transitional Committee shall:
   (a) Convene its first meeting by March 2011;
   (b) Encourage input from all Parties and from relevant international organizations and observers;
   (c) Take into account the findings contained in relevant reports.
Composition and mandate of the Technology Executive Committee

1. The Technology Executive Committee shall comprise 20 expert members, elected by the Conference of the Parties (COP), serving in their personal capacity and nominated by Parties with the aim of achieving a fair and balanced representation, as follows:
   (a) Nine members from Parties included in Annex I to the Convention (Annex I Parties);
   (b) Three members from each of the three regions of the Parties not included in Annex I to the Convention (non-Annex I Parties), namely Africa, Asia and the Pacific, and Latin America and the Caribbean, one member from a small island developing State and one member from a least developed country Party.

2. Decisions will be taken according to the rule of consensus.

3. Parties are encouraged to nominate senior experts to the Technology Executive Committee, with a view to achieving, within the membership, an appropriate balance of technical, legal, policy, social development and financial expertise relevant to the development and transfer of technology for adaptation and mitigation, taking into account the need to achieve gender balance in accordance with decision 36/CP.7.

4. Members shall serve for a term of two years and shall be eligible to serve a maximum of two consecutive terms of office. The following rules shall apply:
   (a) Half of the members shall be elected initially for a term of three years and half of the members shall be elected for a term of two years;
   (b) Thereafter, the COP shall elect every year a member for a term of two years;
   (c) The members shall remain in office until their successors are elected.

5. The Technology Executive Committee shall elect annually a chair and a vice-chair from among its members for a term of one year each, with one being a member from an Annex I Party and the other being a member from a non-Annex I Party. The positions of chair and vice-chair shall alternate annually between a member from an Annex I Party and a member from a non-Annex I Party.

6. If the chair is temporarily unable to fulfill the obligations of the office, the vice-chair shall serve as chair. In the absence of the chair and vice-chair at a particular meeting, any other member designated by the Technology Executive Committee shall temporarily serve as the chair of that meeting.

7. If the chair or vice-chair is unable to complete the term of office, the Technology Executive Committee shall elect a replacement to complete the term of office, taking into account paragraph 5 above.

8. If a member of the Technology Executive Committee resigns or is otherwise unable to complete the assigned term of office or to perform the functions of that office, the Technology Executive Committee may decide, bearing in mind the proximity of the next session of the COP, to appoint another member from the same constituency to replace said member for the remainder of that member's mandate, in which case the appointment shall count as one term.

9. The Technology Executive Committee, in performing its functions, should draw upon outside expertise, including the UNFCCC roster of experts and the Climate Technology Centre and Network, to provide advice, including as expert advisers at its meetings.

10. The Technology Executive Committee should seek input from intergovernmental and international organizations and the private sector and may seek input from civil society in undertaking its work. It may invite advisers drawn from relevant intergovernmental and international organizations as well as the private sector and civil society to participate in its meetings as expert advisers on specific issues as they arise.

11. The meetings of the Technology Executive Committee shall be open to attendance by accredited observer organizations, except where otherwise decided by the Technology Executive Committee.

12. The secretariat shall support and facilitate the work of the Technology Executive Committee.
Annex 7

Decision 1/CP.17

Advance unedited version

Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action

Draft decision -/CP.17

The Conference of the Parties,

Recognizing that climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires to be urgently addressed by all Parties, and acknowledging that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, with a view to accelerating the reduction of global greenhouse gas emissions,

Noting with grave concern the significant gap between the aggregate effect of Parties’ mitigation pledges in terms of global annual emissions of greenhouse gases by 2020 and aggregate emission pathways consistent with having a likely chance of holding the increase in global average temperature below 2 °C or 1.5 °C above pre-industrial levels,

Recognizing that fulfilling the ultimate objective of the Convention will require strengthening the multilateral, rules-based regime under the Convention,

Noting decision X/CMP.7 [Title],

Also noting decision X/CP.17 [Title],

1. Decides to extend the Ad Hoc Working Group on Long-term Cooperative Action under the Convention for one year in order for it to continue its work and reach the agreed outcome pursuant to decision 1/CP.13 (Bali Action Plan) through decisions adopted by the sixteenth, seventeenth and eighteenth sessions of the Conference of the Parties, at which time the Ad Hoc Working Group on Long-term Cooperative Action under the Convention shall be terminated;

2. Also decides to launch a process to develop a protocol, another legal instrument or an agreed outcome with legal force under the United Nations Framework Convention on Climate Change applicable to all Parties, through a subsidiary body under the Convention hereby established and to be known as the Ad Hoc Working Group on the Durban Platform for Enhanced Action;

3. Further decides that the Ad Hoc Working Group on the Durban Platform for Enhanced Action; shall start its work as a matter of urgency in the first half of 2012 and shall report to future sessions of the Conference of the Parties on the progress of its work;

4. Decides that the Ad Hoc Working Group on the Durban Platform for Enhanced Action shall complete its work as early as possible but no later than 2015 in order to adopt this protocol, legal instrument or legal outcome at the twenty-first session of the Conference of the Parties and for it to come into effect and be implemented from 2020;

5. Also decides that the Ad Hoc Working Group on the Durban Platform for Enhanced Action shall plan its work in the first half of 2012, including, inter alia, on mitigation, adaptation, finance, technology development and transfer, transparency of action, and support and capacity-building, drawing upon submissions from Parties and relevant technical, social and economic information and expertise;

6. Further decides that the process shall raise the level of ambition and shall be informed, inter alia, by the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, the outcomes of the 2013.2015 review and the work of the subsidiary bodies;

7. Decides to launch a workplan on enhancing mitigation ambition to identify and to explore options for a range of actions that can close the ambition gap with a view to ensuring the highest possible mitigation efforts by all Parties;

8. Requests Parties and observer organizations to submit by 28 February 2012 their views on options and ways for further increasing the level of ambition and decides to hold an in-session workshop at the first negotiating session in 2012 to consider options and ways for increasing ambition and possible further actions.
Appendix I

Quantified Economy-wide Emissions Targets for 2020
(http://unfccc.int/meetings/copenhagen_dec_2009/items/5264.php)

<table>
<thead>
<tr>
<th>Annex I Parties</th>
<th>Quantified Economy-wide Emissions Targets for 2020</th>
<th>Elaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>-5% up to -15% or -25%</td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Australia will reduce its greenhouse gas emissions by 25% on 2000 levels by 2020 if the world agrees to an ambitious global deal capable of stabilising levels of greenhouse gases in the atmosphere at 450 ppm CO2-eq or lower. Australia will unconditionally reduce our emissions by 5% below 2000 levels by 2020, and by up to 15% by 2020 if there is a global agreement which falls short of securing atmospheric stabilisation at 450 ppm CO2-eq and under which major developing economies commit to substantially restrain emissions and advanced economies take on commitments comparable to Australia’s.</td>
</tr>
<tr>
<td>Belarus</td>
<td>-5-10%</td>
<td>1990</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-5-10% reduction, which is premised on the presence of and access of Belarus to the Kyoto flexible mechanisms, intensification of technology transfer, capacity building and experience enhancement for Belarus taking into consideration the special conditions of the Parties included in Annex I undergoing the process of transition to a market economy, clarity in the use of new LULUCF rules and modalities.</td>
</tr>
<tr>
<td>Canada</td>
<td>17%</td>
<td>2005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17%, to be aligned with the final economy-wide emissions target of the United States in enacted legislation.</td>
</tr>
<tr>
<td>Croatia</td>
<td>-5%</td>
<td>1990</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Temporary target for Croatia. Upon the accession of Croatia to the European Union, the Croatian target shall be replaced by arrangement in line with and part of the European Union mitigation effort.</td>
</tr>
<tr>
<td>EU1 and its Member States (Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden, United Kingdom)</td>
<td>20%/30%</td>
<td>1990</td>
</tr>
<tr>
<td>Denmark</td>
<td>20%</td>
<td>2005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Government of the Faroes has set a target to reduce greenhouse gas emissions in existing domestic sectors by at least 20% below 2005 levels in the period from 2010 to 2020. The Government of Greenland has set a target to reduce greenhouse gas emissions from civil society in the period 2013 to 2020. Civil society includes all private &amp; public activities found in Greenland and the commitment therefore applies to emissions from these activities. Excluded from the 2013 - 2020 commitment period are energy intensive industries based on hydropower energy supply as well as mineral and hydrocarbon activities.</td>
</tr>
<tr>
<td>Iceland</td>
<td>30%</td>
<td>1990</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30% reduction, in a joint effort with the European Union, as part of a global and comprehensive agreement for the period beyond 2012, provided that other developed countries commit themselves to comparable emissions reductions and that developing countries contribute adequately according to their responsibilities and respective capabilities.</td>
</tr>
<tr>
<td>Japan</td>
<td>25%</td>
<td>1990</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25% reduction, which is premised on the establishment of a fair and effective international framework in which all major economies participate and on agreement by those economies on ambitious targets.</td>
</tr>
<tr>
<td>Annex I Parties</td>
<td>Emission reductions in 2020</td>
<td>Base year</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>15%</td>
<td>1992</td>
</tr>
<tr>
<td>Liechtenstein</td>
<td>20%</td>
<td>1990</td>
</tr>
<tr>
<td>Monaco</td>
<td>30%</td>
<td>1990</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Between 10% - 20%</td>
<td>1990</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>15-25 %</td>
<td>1990</td>
</tr>
<tr>
<td>Switzerland</td>
<td>20% / 30%</td>
<td>1990</td>
</tr>
<tr>
<td>Ukraine</td>
<td>20%</td>
<td>1990</td>
</tr>
<tr>
<td>United States of America</td>
<td>17%</td>
<td>2005</td>
</tr>
</tbody>
</table>

1. Currently, not all EU Member States are Annex I Parties
2. Kazakhstan is a Party included in Annex I for the purposes of the Kyoto Protocol in accordance with Article 1, paragraph 7, of the Protocol, but Kazakhstan is not a Party included in Annex I for the purposes of the Convention.
### Appendix II

**Nationally Appropriate Mitigation Actions of Developing Country Parties**


<table>
<thead>
<tr>
<th>Non-Annex I</th>
<th>Actions</th>
</tr>
</thead>
</table>
| Afghanistan | (1) preparation of the Initial National Communication (INC), which will include specific mitigation strategies and activities appropriate for the National Context;  
(2) Completion of National Green House Gas Inventory |
| Antigua and Barbuda | (1) Pursue a low carbon, green growth development strategy during the period 2010 to 2015, and in this regard is requesting so-called ‘fast track’ financing envisaged under paragraph 8 of the Copenhagen Accord  
(2) On the basis of financial and technical support from the international community, including those envisaged in paragraphs 8, 10 and 11 of the Copenhagen Accord, voluntarily under take nationally appropriate, measurable and verifiable actions aimed at reducing its GHG emissions by 25% below 1990 levels by 2020;  
(3) On the basis of financial and technical support from the international community, including those envisaged in paragraphs 8, 10 and 11 of the Copenhagen Accord, develop and implement nationally appropriate adaptation plans, programmes and projects, and associated capacity building  
(4) Consistent with Article 12.1 (b) of the conventions, communicate through its National Communications, on the actions delineated above |
| Armenia | Implement "The National Program on Energy Saving and Renewable Energy 2007" with focuses on:  
- Increase in energy production from renewable energy sources  
- Modernization of the thermal power plants  
- Improvement of energy efficiency in all sectors, including building and construction  
- Decrease of loss in methane flow in gas (a) transportation and (b) delivery systems  
- Decrease in methane emissions from solid municipal waste and waste water  
- Restoration of degraded forests, afforestation and reducing volume of deforestation, sustaining soil CO2 content and ensuring its increase |
| Bhutan | With respect to nationally appropriate mitigation action, Bhutan already sequester more carbon than is emitted and has expressed intention to ensure that the emissions do not exceed sequestration capacity. |
| Brazil | The nationally appropriate mitigation action will include CDM under Kyoto Protocol and:  
- Reduction in Amazon deforestation - estimated reduction 564 million tons of CO2 equivalent in 2020;  
- Reduction in "cerrado" deforestation - range of estimated reduction 104 million tons of CO2 equivalent in 2020;  
- Restoration of grazing land - range of estimated reduction 83 to 104 million tons of CO2 in 2020;  
- Integrated crop-livestock system - range of estimated reduction 18-22 million tons of CO2 equivalent in 2020;  
- No-till farming - range of estimated reduction - 16-20 million tons of CO2 equivalent in 2020;  
- Biological N2 fixation - range of estimated reduction 16 to 20 million tons of CO2 equivalent in 2020;  
- Energy efficiency - range of estimated reduction 12 to 15 million tons of CO2 equivalent in 2020;  
- Increase use of biofuels - range of estimated reductions 48 to 60 million tons of CO2 equivalents in 2020.  
- Increase in energy supply by hydroelectric power plants - range of estimated reduction 79 to 99 million tons of CO2 equivalent in 2020;  
- Alternative energy sources - range of estimated reduction 26 to 33 million tons of CO2 equivalent in 2020;  
- Iron and steel (replace coal from deforestation with coal from planted forests) (range of estimated reduction 8 to 10 million tons of CO2 equivalent in 2020)  
It is anticipated that these actions will lead to an expected reeducation of 36.1% to 38.9% regarding projected emissions of Brazil by 2020. |
| Chile | Chile will take nationally appropriate mitigation actions to achieve a 20% deviation below the "business-as-usual" emissions growth trajectory by 2020, as projected from year 2007 supported by appropriate international support. The main focus of mitigation actions will be energy efficiency, renewable energy, and Land Use and Land Use Change and Forestry measures. |
### Non-Annex I Actions

<table>
<thead>
<tr>
<th>Country</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>China will endeavor to lower its carbon dioxide emissions per unit of GDP by 40-45% by 2020 compared to the 2005 level, increase the share of non-fossil fuels in primary energy consumption to around 15% by 2020 and increase forest coverage by 40 million hectares and forest stock volume by 1.3 billion cubic meters by 2020 from the 2005 levels.</td>
</tr>
<tr>
<td>India</td>
<td>India will endeavour to reduce the emissions (excluding agricultural sector) intensity of its GOP by 20-25% by 2020 in comparison to the 2005 level.</td>
</tr>
<tr>
<td>Indonesia</td>
<td>An reduction in emission of 26% by 2020 through actions as follows - sustainable peat land management, reduction in rate of deforestation and land degradation, development of carbon sequestration projects in forestry and agriculture, promotion of energy efficiency, development of alternative and renewable energy sources, reduction in solid and liquid waste, shifting to low-emission transportation mode.</td>
</tr>
<tr>
<td>Korea</td>
<td>Reduce emission of GHG by 30% from business-as-usual emissions by 2020</td>
</tr>
<tr>
<td>Maldives</td>
<td>Achieve carbon neutrality by 2020.</td>
</tr>
<tr>
<td>Mexico</td>
<td>Mexico aims at reducing its GHG emissions up to 30% with respect to the business as usual scenario by 2020, provided the provision of adequate financial and technological support from developed countries as part of a global agreement.</td>
</tr>
<tr>
<td>Singapore</td>
<td>Mitigation measures leading to a reduction of GHG emissions by 16% below business-as-usual levels in 2020, contingent on a legally binding global agreement in which all countries implement their commitments in good faith. Singapore will nonetheless begin to implement the mitigation and energy efficiency measures announced under the Sustainable Singapore Blueprint in April 2009. These measures are an integral part of the measures to achieve a 16% reduction below BAU. When a legally binding global agreement on climate change is reached, Singapore will implement additional measures to achieve the full 16% reduction below BAU in 2020.</td>
</tr>
<tr>
<td>South Africa</td>
<td>South Africa will undertake actions to enable a 34% deviation below the &quot;business-as-usual&quot; emissions growth trajectory by 2020 and a 42% deviation below the &quot;business-as-usual&quot; emissions growth trajectory by 2025 depending on provision of financial resources, transfer of technology and capacity building support by developed countries.</td>
</tr>
</tbody>
</table>
| Sierra Leone | 1. Establishment of the National Secretariat for Climate Change (NSCC)  
2. Institutional strengthening and capacity building for environmental protection and management as well as the country. Mitigation and adaptation efforts to climate change.  
3. Increase conservation efforts in Sierra Leone. The Establishment of a network of twelve Protected Areas by 2015. Sustainable management and protection of Forest Reserves and Catchment areas in Sierra Leone including mangroves, coastal and inland Wetlands. Delineation and Restoration of Vulnerable Habitats and Ecosystems in the Western Area of Sierra Leone. Provide support for a national assessment on forest resources.  
4. Improve forest governance to maintain the proportion of land area covered by forests to at least 3.4 million ha by 2015, through the development of legislation, regulations and bye-laws for environmental protection, including control of deforestation, firewood collection and charcoal production and through capacity building, training and support to law enforcement services and the Ministry of Agriculture (Forestry Department).  
5. Setting/developing air, water and soil quality pollution standards, and ensure regular assessments and monitoring through control programs.  
6. Introducing conservation farming and promoting the use of other sustainable agricultural practices, eg. Agroforestry etc.  
7. Development of an Integrated Natural Resources and Environmental Management programme for Sierra Leone, including sustainable land management programmes, particularly in relation to Ecosystems.  
8. Expanding clean energy utilization (eg. solar, mini-hydro electric power, LPG, biomass stoves etc)  
10. Development of alternative energy sources such as biofuels from sugarcane, corn, rice husk etc  
11. Developing agricultural and urban waste incineration programmes for energy production.  
12. Improved waste management through composting and recycling of waste. Development and enforcement of regulations on regular maintenance of vehicles. Improving the use of mass transport (eg. Road and water) for passengers and cargo to reduce traffic congestion and GHGs emissions. |

Note: only selected country’s actions are given.


BUP-CEARS-CRU, 1994. *Bangladesh: Greenhouse Effect and Climate Change, Briefing Documents No. 1-7*, Bangladesh Unnayan Parishad (BUP), Centre for environmental and Resource Studies (CEARS), University of Waikato, New Zealand and Climate Research Unit (CRU), University of East Anglia, Norwich, UK.


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