Climate Change and Why It Needs Urgent Attention?

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Background

The environment (global and local) has been a subject of major concern to the international community for several decades
Several international conferences have been held on a regular basis and actions taken

Milestone 1

1972 UNEP established after Stockholm UN Conference on the Human Environment to provide global leadership and encourage partnership in caring for the environment.

UNEP is the voice for the environment within the United Nations system. UNEP acts as a catalyst, advocate, educator and facilitator to promote the wise use and sustainable development of the global environment.

UNEP work encompasses:

- Assessing global, regional and national environmental conditions and trends
- Developing international and national environmental instruments
- Strengthening institutions for the wise management of the environment

Mission

"To provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations."

Mandate

"to be the leading global environmental authority that sets the global environmental agenda, that promotes the coherent implementation of the environmental dimensions of sustainable development within the United Nations system and that serves as an authoritative advocate for the global environment"

In its **medium term strategy**, UNEP identifies six cross-cutting thematic priorities (in alphabetical order):

(a) **Climate change**;
(b) **Disasters and conflicts**;
(c) **Ecosystem management**;
(d) **Environmental governance**;
(e) **Harmful substances and hazardous waste**;

(f) **Resource efficiency – sustainable consumption and production**.

Source: http://www.unep.org/about/

Milestones 2, 3, 4

1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) adopted.
1975 Adoption of the Mediterranean Action Plan.
1979 Bonn Convention on Migratory Species (CMS) established.

Milestone 5

1982 The Montevideo Program adopted by UNEP Governing Council setting priorities for global lawmaking. Led to major agreements, including the Basel, Stockholm and Rotterdam Conventions and the Montreal Protocol.Assisted 120 governments develop environmental legislation.

Milestones 6, 7, 8

1983 The Brundtland Commission established: definition of sustainable development; Published "Our Common Future", a blue print for work on sustainability.
1987 Zambezi River Action Plan adopted; Montreal Protocol on Substances that Deplete the Ozone Layer established following the Vienna Convention of 1985.

Milestone 9

1988 Intergovernmental Panel on Climate Change (IPCC) established by UNEP and the World Meteorological Organization: Since then it has been delivering the most influential, comprehensive and scientifically reviewed reports on climate change; played a decisive role in the establishment of the UN Framework Convention on Climate Change and the Kyoto Protocol.

Milestones 10, 11, 12, 13

1989 Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal adopted.
1991 Business Charter on Sustainable Development issued at the 2nd World Industry Conference on Environmental Management (WICEM II); Global Environment Facility (GEF) established.
1992 UN Conference on Environment and Development (Earth Summit) adopts Rio Declaration and Agenda 21;
1992 Convention on Biological Diversity (CBD) established.

Milestones 14, 15, 16, 17, 18

1995 Global Programme of Action (GPA) launched as a non-binding agreement to protect the marine environment from land-based sources of pollution.
1995 Basel Ban Amendment barring export of hazardous wastes adopted.
1996 UN Convention to Combat Desertification (UNCCD) entered into force.
1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade adopted.

1999 UN Global Compact launched.

Milestones 19, 20, 21, 22

2000 The Malmö Declaration adopted.
2000 Millennium Declaration adopted: "ensuring environmental sustainability" as one of eight Millennium Development Goals (MDGs).
2001 Stockholm Convention on Persistent Organic Pollutants (POPs) adopted.
2002 World Summit on Sustainable Development

Milestones 23, 24

2005 Bali Strategic Plan for Technology Support and Capacity-building adopted by the UNEP Governing Council; Millennium Ecosystem Assessment highlights the importance of ecosystems to human well-being, and the extent of ecosystem decline.
2007 Fourth IPCC Assessment Report states that warming of the climate is unequivocal; 2007 Nobel Peace Prize; Bali Action Plan – calling for comprehensive action beyond 2012; Integration of climate change and sustainable development policies.

Milestones 25, 26

2007 The Economics of Ecosystems & Biodiversity (TEEB) launched; International Panel for Sustainable Resource Management established to provide the scientific impetus for decoupling economic growth and resource use.
2008 UN-REDD program launched to combat deforestation, forest degradation and climate change; UNEP becomes a climate neutral organization (through reducing greenhouse gas emissions and procuring carbon credits to compensate for the remaining emissions); launch of the Global Green New Deal--Green Economy.

Milestones 27, 28, 29

2009 International negotiations to prepare a global legally binding instrument on mercury are launched.
2010 Nusa Dua Declaration adopted at UNEP's Global Ministerial Forum in Indonesia; Governments agreed to establish an Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).
2011 UNEP launches the Green Economy report: Pathways to Sustainable Development and Poverty Eradication; UNEP and UN-HABITAT open New Energy Efficient Office Facility in Gigiri

Much done; yet there are still more issues

Kyoto Protocol

The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change, which **commits** its Parties by setting internationally binding emission reduction targets.

The Kyoto Protocol was adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005. The detailed rules for the implementation of the Protocol were adopted at COP 7 in Marrakesh, Morocco, in 2001, and are referred to as the "Marrakesh Accords." Its first commitment period started in 2008 and ended in 2012.

Recognizing that developed countries are principally responsible for the current high levels of GHG (green house gases) emissions in the atmosphere as a result of more than 150 years of industrial activity, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

Doha Amendment

During the first commitment period (2008-2012), 37 industrialized countries and the European Community committed to reduce GHG emissions to an average of five percent against 1990 levels. During the second commitment period, Parties committed to reduce GHG emissions by at least 18 percent below 1990 levels in the eight-year period from 2013 to 2020.

Intergovernmental Panel on Climate Change

The Intergovernmental Panel on Climate Change (IPCC) is the leading international body for the assessment of climate change. It was established by the United Nations

Environment Programme (UNEP) and the World Meteorological Organization (WMO) in 1988 to provide the world with a clear scientific view on the current state of knowledge in climate change and its potential environmental and socio-economic impacts. In the same year, the UN General Assembly endorsed the action by WMO and UNEP in jointly establishing the IPCC.

The IPCC is a scientific body under the auspices of the United Nations (UN). It reviews and assesses the most recent scientific, technical and socio-economic information produced worldwide relevant to the understanding of climate change. It does not conduct any research nor does it monitor climate related data or parameters.

Thousands of scientists from all over the world contribute to the work of the IPCC on a voluntary basis. Review is an essential part of the IPCC process, to ensure an objective and complete assessment of current information. IPCC aims to reflect a range of views and expertise. The Secretariat coordinates all the IPCC work and liaises with Governments. It is supported by WMO and UNEP and hosted at WMO headquarters in Geneva.

The IPCC is an intergovernmental body. It is open to all member countries of the United Nations (UN) and WMO. Currently 195 countries are members of the IPCC. Governments participate in the review process and the plenary Sessions, where main decisions about the IPCC work programme are taken and reports are accepted, adopted and approved. The IPCC Bureau Members, including the Chair, are also elected during the plenary Sessions.

Because of its scientific and intergovernmental nature, the IPCC embodies a unique opportunity to provide rigorous and balanced scientific information to decision makers. By endorsing the IPCC reports, governments acknowledge the authority of their scientific content. The work of the organization is therefore policy-relevant and yet policy-neutral, never policy-prescriptive.
http://www.ipcc.ch/

What is climate change and why is it preoccupying
Climate change: change in weather pattern; predictability is gone
The extremes: flash flood; mega storms; unusual drought
Melting of the polar caps; rising sea level and temperature; many island countries set to be underwater

One of the main IPCC activities is the preparation of comprehensive Assessment Reports about the state of scientific, technical and socio-economic knowledge on climate change, its causes, potential impacts and response strategies. The IPCC also produces Special Reports, which are an assessment on a specific issue and Methodology Reports, which provide practical guidelines for the preparation of greenhouse gas inventories.

Since its inception in 1988 the IPCC has prepared five multivolume assessment reports. The Fifth Assessment Report was finalized in October 2014.

The Fifth Assessment Report (AR5) was released in

four parts between September 2013 and November 2014. It is the most comprehensive assessment of scientific knowledge on climate change since 2007 when the Fourth Assessment Report (AR4) was released.

AR5 is made up of the full reports prepared by theWorking Groups (I, II and III) and their Summaries for Policymakers as well as the Synthesis Report.
Click here for the WGI contribution on the physical science basis of climate change; here for the WGII contribution on impacts, adaptation and vulnerability; and here for the WGIII contribution on mitigation of climate change. The Synthesis Report can be found here.

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AR5 Contents

AR5 puts greater emphasis on assessing the socio-economic aspects of climate change and its implications for sustainable development

Some new features of AR5 as a whole include:
- A new set of scenarios for analysis across Working Group contributions;
- Dedicated chapters on sea level change, carbon cycle and climate phenomena such as monsoon and El Niño;
- Much greater regional detail on climate change impacts, adaptation and mitigation interactions; inter- and intra-regional impacts; and a multi-sector synthesis;
- Risk management and the framing of a response (both adaptation and mitigation), including scientific information relevant to Article 2 of the UNFCCC referring to the "...stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".

The outlines and contents of the AR5 Working Group reports, approved by the Panel at its 31st Session in Bali, Indonesia, can be found in the AR5 reference document. See the AR5 leaflet for abbreviated outlines of each volume of the report.
Note: Changes in the Working Group III outline, as reflected in the following progress reports, were considered and approved by the Panel at its 34th and 35th Sessions (IPCC-XXXV/Doc. 21, IPCC-XXXIV/Doc. 18, Rev.1).

Several cross-cutting themes and methodologies meriting consistent treatment across Working Groups were identified for AR5. The IPCC organized expert meetings and workshops to facilitate consideration of complex topics relevant to the AR5 assessment process, including cross-cutting themes and methodologies.

Key AR5 **cross-cutting themes** are:
Water and the Earth System: Changes, Impacts and Responses;

- Carbon Cycle including Ocean Acidification (see Meeting Report);
- Ice Sheets and Sea-Level Rise (see Meeting Report);
- Mitigation, Adaptation and Sustainable Development; and
- Article 2 of the UNFCCC (see UNFCCC for definition).

Key AR5 **cross-cutting methodologies** are:
Consistent Evaluation of Uncertainties and Risks (see Guidance Note);

- Costing and Economic Analysis (see Meeting Report);
- Regional Aspects;
- Treatment of Scenarios (see Meeting Report);
- Greenhouse Gas Metrics (see Meeting Report).

The AR5 Synthesis Report - The Synthesis Report synthesizes and integrates material contained within the Working Group reports and Special Reports and is written in a non-technical style suitable for policymakers and addresses a broad range of policy-relevant but policy-neutral questions.

The AR5 Synthesis Report (SYR) was prepared by a Core Writing Team (CWT) led by the IPCC Chair. The team consisted of authors of the three Working Group report-writing teams and members of the Executive Committee.

Synthesis Report

The Synthesis Report comprises an SPM and a longer report. The draft of the longer report and its SPM undergo a simultaneous government and expert review. The longer report and the SPM are then revised by the authors with the help of Review Editors. The revised drafts of the longer report and SPM are submitted to governments and observer organizations and are both tabled for discussion in a Session of the Panel. This took place as follows:

SYR government and expert review	21 April - 13 June 2014
SYR government review of final draft	25 August - 10 October 2014
Approval and adoption of the SPM and AR5 SYR	27-31 October 2014, Copenhagen, Denmark

The Synthesis Report distils and integrates the findings of the three working group contributions to the IPCC Fifth Assessment Report -- the most comprehensive assessment of climate change yet undertaken, produced by hundreds of scientists -- as well as the two Special Reports produced during this cycle.

Important resources on line:

- Summary for Policymakers
- Synthesis Report - Longer Report
- Headline Statements
- Factsheet
- Quick link to report PDFs

2014 Climate change tops world agenda

IPCC Assessment: grim picture
Large-scale marches worldwide September 2014
UN Summit September 2014
WAFUNIF Conference October 2014
Lima, Peru Negotiation Conference

The divest movement

Universities and various groups to remove their investments from companies which contribute to increase in CO2 emissions

The UN World Summit 2014: gateway to Paris Conference

Called by UN Secretary General in September 2014
High level attendance: head of states; business executives and NGOs
Get countries to gear up for the 2015 Paris Conference

WAFUNIF International Conference on the Global Environment

Key points:
Held at UNHQ in October 2014
Participants: members of the UN and international communities inc academia
Stakeholders: representatives of the transportation sector
Transportation sector:
US automobile
Japan automobile
Canada automobile
European Commission
Focus on solutions
Carbon reduction: the transportation sector has over the years been making effort to improve fuel efficiency, cut down emissions, use hybrid technologies, use electrical energy, use natural gas, use clean diesel
Case study; ASUA, Japan: EcoDrive

WAFUNIF Conference Summary

WAFUNIF felt the need and urgency to convene an international conference on the environment at United Nations headquarters in New York on October 17, 2014 in light of the pressing issues being debated, taking a positive approach evaluating solutions already being worked on with a caveat that these may need to be further developed. The participants were members of the United Nations community as well as of the academic and business communities. In September this year, there were large-scale marches in New York City and many other parts of the world showing clearly that people are worried as they try to cope with the vagaries of climate change. In September this year as well, UN Secretary General Ban Ki Moon called a Summit on the Environment at the highest level at UN headquarters. Meanwhile the SPCC had sounded the alarm that the world may be reaching the point of no return where whatever we do will not be able to prevent disasters from happening, for example many island countries disappearing. It is

therefore imperative to take preventive measures ensuring that the situation will not get worse. The WAFUNIF Conference reviewed the key issues on the subject and looked at specific focus on solutions, specifically carbon reduction and ecodrive. WAFUNIF was able to get the support of the Permanent Mission of Romania to the UN to host the Conference under the sponsorship of ASUA, a Japanese company known for its pioneering work on environmental solutions. WAFUNIF Conference dealt with four major areas in a technocratic manner: (1) Global Environment: Factors of Sustainability (2) Global Environment: Energy and Transportation (3) EcoDrive as a Solution and (4) Environmental Policies. The most important aspects of a very complex subject were thus covered by leading experts, both practitioners and scholars.

The 5th assessment report of the SPCC shows that there is no doubt that warming of the climate system has kept on increasing with human beings being the dominant factor in the process. Based on data from 1986 to 2005, projections show that with a continuation of the current scenario including a cumulative emissions of CO2, mean world temperature will rise 2.6 to 4.8 degrees Centigrade and mean seal level rising 0.45 to 0.82m for the years 2081-2100. If appropriate measures are taken, the increases will only be 0.3 to 1.7 degrees Centigrade and 0.25 to 0.55m. Thus reduction of greenhouse gases is necessary. Under the international agreement, which was agreed in COP 18 on November 2012, even if rise of the world mean temperature in comparison to pre-industrial revolution was limited to within 2 degrees, the combination of the rise of temperature, the change in amount of rain fall, other changes in weather, the rise of mean sea level, acidification of the sea will all have a significant influence in many aspect of areas, such as disaster, food and health. For this reason, it is necessary to take action towards mitigation as well as countermeasure so as to avoid the impact of what is already being experienced and reduce the unavoidable impact of what may happen in the near future. There is a need for a substantial multi-century climate change commitment to deal with the negative effects of CO2 emissions of the past, the present, and the future.

At the high level climate summit held at the United Nations in September, statements were made by head of states and ministers with a clear understanding that countries are responsible for finding solutions to the growing problems of climate change and that it is important for countries to come to an agreement under the new international framework set for Paris for 2015, and the need to focus on method to reduce the greenhouse effect gas, and global warming; also considered were issues of finance, energy, forest, farming, industrial transportation and urban development bringing together entities such as the private and public sectors and civil society organizations joining together to formulate a policy towards global warming called “Multi stake holder action announcement”. The WAFUNIF Conference dealt with the issues head on engaging major stakeholders from the transportation sector to intensify what they do to make a difference. There is no doubt that policy is an important consideration but the transportation sector has itself been in search of solutions, ranging from improvement of fuel efficiency to reduction of carbon emission; we have cars ranging from hybrid to electrical and natural gas hydrogen fuel cell; we have trucks that run on clean diesel and buses on natural gas. The Conference took a close look at the pioneering work done by ASUA on EcoDrive as a solution which brings significant improvement with a cost-benefit ratio showing that it warrants attention and adoption. EcoDrive is a mindset as well as a skill set. EcoDrive is a method of retraining of motorist so as to help drivers from all countries and cultures improve their behaviors making the driving experience more pleasurable while saving energy, minimizing pollutants, and reducing the number of traffic accidents. EcoDrive is enlightened global driving for the 21st century. EcoDrive is more than a simple process that reduces automotive operating costs, gas

consumption, and pollution. It is more than an easy technique that helps improve the driving experience by making it more comfortable for the driver and safer for all. In its broadest definition, Ecodrive is a set of tool that drivers can use to improve the way they interact with one another in situations which are both in-and-out of a vehicle. The method reminds us that being considerate is a valuable human quality that we should nurture while teaching mindfulness, a key skill for anyone who drives an automobile. The Ecodrive technique reduces mental tension and fatigue thus encouraging peace of mind. It helps the practitioner to become fully aware and fully engaged in the present moment. More importantly, the skills practiced through Ecodrive reverberate in other areas of our daily lives. The calming concentration technique that is primarily practiced at the wheel spills into our relationships in the world around us. Ecodrive's skill makes us better at handling the unexpected twists and turns on the road and in our lives. The WAFUNIF Conference shows that much is being done by the transportation sector which remains committed to doing even more.

Paris Framework Conference 2015

Purpose: continue negotiation among countries to commit to specific targets for CO2 reductions
Expectations: better than those of the 2009 Conference
Realism: targets without commitments
Intervening factors
Rift between the scientific assessments and political decision making
Rift developed-developing countries, with the latter thinking that the former is pushing them to do more environmental protection which could hamper their economic growth
Action needed
Developed countries: reduce activities that contribute to climate change (CO2 emissions); diversification of energy sources
Developing countries: reduce activities that contribute to climate change (CO2 emissions, deforestation, diversification of energy sources)
Global Fund for developing countries
Set up to assist the developing countries in their efforts
France contributed $1 billion followed by Germany also $1 billion; US pledges $3 billion, Japan over $1 billion, other countries following
Given the dire assessment made by the scientific community (via IPCC) and empiricism such as the vagaries of climate change, it is expected that countries will be willing to work together at the Paris Conference 2015 on finding and implementing solutions
Private sector companies are also making serious efforts at becoming 'green'
'Green' seen as a new developing business opportunity