SAARC
Disaster Management Centre (IU)

Climate Risk Management in Changing Environment

An outcome document of the

Webinar on Climate Risk Management in Changing Environment jointly conducted by SAARC Disaster Management Centre (IU), UNDRR ONEA-GETI and UNESCAP

(15 March, 2022)

Contents

1. Introduction: Relevance of the Webinar

This document has been developed as an outcome of the Webinar on **'Climate Risk Management in a Changing Environment'** jointly conducted by SAARC Disaster Management Centre (IU), UNDRR ONEA-GETI and UNESCAP on 15th March 2022.

Climate change is the single biggest health threat facing humanity, and health professionals worldwide are already responding to the health harms caused by this unfolding crisis. The Intergovernmental Panel on Climate Change (IPCC) has concluded that to avert catastrophic health impacts and prevent millions of climate change-related deaths, the world must limit temperature rise to 1.5°C. Past emissions have already made a certain level of global temperature rise and other changes to the climate inevitable. Global heating of even 1.5°C is not considered safe, however; every additional tenth of a degree of warming will take a serious toll on people's lives and health. Though already known, but it is now a fact established by science - human activity is the cause of the atmosphere, oceans, and land warming. Thus, there is no denying that climate change would function as a Disaster Risk amplifier - the frequency, duration, nature and intensity of extreme weather events are bound to change. This poses a downside risk to sustainable development of communities and countries. While no one is safe from these risks, the people whose health is being harmed first and worst by the climate crisis are the people who contribute least to its causes, and who are least able to protect themselves and their families against it - people in low-income and disadvantaged countries and communities. Climate change is already impacting health in a myriad of ways, including by leading to death and illness from increasingly frequent extreme weather events, such as heatwaves, storms and floods, the disruption of food systems, increases in zoonoses and food-, water- and vector-borne diseases, and mental health issues. Furthermore, climate change is undermining many of the social determinants for good health, such as livelihoods, equality and access to health care and social support structures. These climate-sensitive health risks are disproportionately felt by the most vulnerable and disadvantaged, including women, children, ethnic minorities, poor communities, migrants or displaced persons, older populations, and those with underlying health conditions.

The South Asia region is both a large contributor to climate change and also one of the most vulnerable to climate change. To this end, an attempt was made to organise a webinar in order to lucidly illustrate the physical basis behind climate change (doing away with the misnomers like weather, climate variability and climate change), help participants visualize the impacts of climate change on various sectors and take stock of the progress of climate action in the SAARC countries of the region.

2. 7 Years into the Paris Agreement – Astounding Success or Interminable Procrastination?

Paris Agreement - The landmark accord, which was agreed at COP21, saw rich and poor countries align and come together in an international treaty on climate change to keep global heating to well below 2°C.

No less than 196 countries agreed to the goal of limiting global warming to well below 2°C, preferably to 1.5°C compared to pre-industrial levels, the scientifically advised limit of safety. The Paris Agreement works on a five-year cycle of increasingly ambitious climate action carried out by countries. With seven years already passed when this agreement established a "global stocktake" which revisits the national goals to "update and enhance" them every five years beginning 2023, let's have a look at the successes, the ongoing challenges and what the future holds for this landmark accord.

Mainstreaming 1.5°C – The inclusion of 1.5°C as an aspirational limit on global warming was a big victory for the vulnerable island nations and leading environmental NGOs. 1.5°C had previously been dismissed by major powers, but increased reporting on the difference half a degree would make to millions of lives helped to ensure this aspirational target was included. Over the past couple of years, recognition of limiting global heating to 1.5°C is commonplace among many nations and within many businesses.

Normalising net zero – Net-zero emissions targets are now commonplace. There is also a powerful movement of net-zero emission targets within the corporate world with businesses often setting more aggressive targets than country-level commitments. Climate science suggests you cannot reach 1.5°C without going carbon neutral. Net zero is a way of conceptualising what 1.5°C means in practice.

Shift to renewables – The financing landscape has shifted in favour of clean energy, and many believe that the Paris Agreement sent the signal that renewables and clean technology were a worthwhile and safe investment. This increase reflects the fact that wind turbines and solar panels are now competitive or cheaper than fossil fuel generation in many countries, and that is before factoring in subsidies.

Rising emissions – Despite the landmark commitments made by signatories of the Paris Agreement, emissions have continued to rise globally. The UN Environment Programme (UNEP) reported that emissions rose from 50 billion tonnes in 2015 to 55 billion tonnes in 2019. While carbon output has reduced dramatically in 2020, due mainly to the impact of COVID-19, emissions have only decreased to the level that will be required every single year to achieve the Paris Agreement and that's with transport, industry and commerce almost grinding to a halt during parts of the year. The prospect of a global green recovery from COVID-19 isn't materialising across the board, with some countries pouring money into the fossil fuel economy to stave off a devastating recession.

Rising fossil fuel production – Despite the growth in renewables and clean technology, the UN Environment Programme recently reported that nations are planning production increases of 2% a year and G20 countries are giving 50% more COVID-19 recovery funding to fossil fuels than to clean energy.

Effects are already being felt and by the most vulnerable – Climate change is affecting every country on every continent. It is disrupting national economies and affecting lives. Weather patterns are changing, sea levels are rising and weather events are becoming more extreme. The populations of countries that have contributed the least to global warming are the most vulnerable to death and diseases brought about by higher temperatures.

3. COP26: Four big takeaways for South Asia

As COP26 ended with a much-debated final Glasgow Climate Pact, the discussions on progress and implementation are underway. The world did make significant progress in many important areas including an agreement by 130 countries to work together to halt and reverse forest loss and land degradation by 2030, a pledge by major automakers and 30 national governments to phase out internal combustion engines by 2040 worldwide, and approximately 100 countries signing a global pledge to cut methane emissions by 30% by 2030.

The Rules for Carbon Trading That Were Finalized Will be Positive for South Asian Countries - Article 6 of the Paris Agreement allows parties to lower abatement costs by working together in cooperative approaches that create internationally transferred mitigation outcomes. Negotiators finalized the rule for a global carbon finance market that would avoid loopholes and double counting and limited the number of prior credits brought under this framework. Carbon finance will play a critical catalytic role in leveraging private sector finance for flourishing regional power trade between the so-called BBIN countries: Bangladesh, Bhutan, India, and Nepal. The Royal Government of Bhutan is to set up the Bhutan Climate Fund to monetize the carbon credits generated from the export of hydropower to India. Bangladesh and Pakistan have been selected to participate in the Partnership for Market Implementation. A potential area of support from the World Bank could be to help countries develop robust GHG inventories and registries.

There was no grand bargain on climate finance and this issue is likely to become prominent in COP27 and beyond: Climate commitments by developing countries have been made in the absence of a grand bargain on concessional climate finance, including but not limited to the $100 billion that was promised at Copenhagen 12 years ago. There were some promising signs, however, The Glashow Pact promises to double adaptation finance by 2025 and launches a two-year "Glasgow-Sharm el-Sheikh" work program on the global goal on adaptation. The US signed a statement agreeing to "increase resources" for loss and damage. The UNFCCC's Adaptation Fund on November 8 raised a record US$ 356 million in new support from contributing national and regional governments. While this number is minimal relative to the needs, the renewed interest from development partners is encouraging.

Progress was made on coal and fossil fuel subsidies: The final Glasgow Climate Pact calls to accelerate the "phase-down" of unabated coal power from plants that don't use carbon-capture technology . While this is a positive development, it still caused disappointment to those who wanted a commitment to entirely phase-out coal. If the world is to have any chance of keeping overall warming to below 1.5 degrees, then all major power producers must phase out old, high-capacity power plants with lower efficiency and higher emissions and stop any new unabated coal capacity. On the positive side, we must recognize that for the first time in the 27 years of COP discussions a phase-down of coal and a phase-out of fossil fuel subsidies have been mentioned and agreed by all 200 countries. Both Pakistan and Bangladesh have cancelled all coal plants not currently under construction. At the same time, many developing countries continue relying on coal as a cheap and the only secure resource they have in abundance for their critical energy needs. Coal generates millions of jobs and significant revenues for governments. Reducing dependency on coal will need significant financing, patience, and a phased approach to ensure a just transition for the poor and vulnerable whose livelihood depends directly or indirectly on coal. It is, therefore, significant that India, along with Indonesia, the Philippines, and South Africa, signed up as the first recipients of a multibillion-dollar pilot program aimed at accelerating their transition from coal power to clean energy through the Accelerating Coal Transition program of the Climate Investment Funds.

India's net zero+ announcements are significant: India announced not just a 2070 net-zero target but also, perhaps even more significantly, nearer-term targets of 500 GW non-fossil fuel energy, 50 percent of the country's installed capacity through renewables, 45 percent reduction in the carbon intensity of its economy, and a reduction of 1 billion tonnes carbon emissions by 2030. The International Energy Agency's (IEA) landmark India Energy Outlook 2021 projects India to experience the most significant increase in energy demand of any country worldwide over the next 20 years. India has less than half of the world's average per capita emissions . India's development pathway in this decade will be much more critical than its distant net-zero target. This pathway will need to include sectoral green transition strategies for energy, transport, agriculture, water, and urban development with detailed investment plans to be implemented in the next decade. Taking a 'whole-of-government' approach to climate change will be essential so that every government agency and ministry acts on and "owns" the risks and opportunities from climate change.

4. South Asia Is on the Front Lines of the Climate Crisis: IPCC Reports

The 6th Assessment Report, entitled "Climate Change 2021: The Physical Science Basis" from the Intergovernmental Panel on Climate Change (IPCC)'s Working Group 1, draws up a very precise inventory of climate physics, and is the most important source regarding scientific knowledge on climate change

around the world. Though already known, but it is now a fact established by science - human activity is the cause of the atmosphere, oceans, and land warming. Thus, there is no denying that climate change would function as a Disaster Risk amplifier - the frequency, duration, nature and intensity of extreme weather events are bound to change. This poses a downside risk to sustainable development of communities and countries. With this report, the IPCC examines for the first time the regional aspects of climate change. Because of worsening climate change, the IPCC warns that each region is expected to experience more simultaneous and multiple changes in climate impact factors, even with a global warming of 1.5°C. The South Asian region, with its exponential development, would be more prone to a riskscape of uncertainty, and thus, it is absolutely necessary to understand the plausible effects and impacts of climate change and develop a consensus towards climate action. Climate change impacts stand to slash up to 9% off the South Asian economy every year by the end of this century, and the human and financial toll could be even higher if the damage from floods, droughts and other extreme weather events is included.

South Asia's climate change vulnerability has long been apparent. Rising sea levels and flooding threaten the coastal states of Bangladesh, India, Pakistan, and Sri Lanka. Landlocked Afghanistan, Bhutan, and Nepal face rising temperatures, drought, and glacial melts. The region is also home to the lowest lying country in the world: the densely populated island nation of the Maldives, which could be submerged in the not-too-distant future. Almost 700 million people—nearly half of South Asia's population—have been affected by at least one climate-related disaster in the last decade, according to the World Bank. India and Pakistan ranked among the 20 countries most affected by climate change in the 21st century in the think tank Germanwatch's 2020 Global Climate Risk Index. A recent McKinsey Global Institute report found climate impacts could rob South Asian countries of up to 13 percent of their GDP by 2050. One of the IPCC report's main messages is there is still time to avert climate catastrophe through stronger mitigation policies. And to their credit, South Asian countries have produced many such policies. But poor monitoring and enforcement and insufficient funding have undermined their efficacy.

5. Expert Sessions of the Webinar

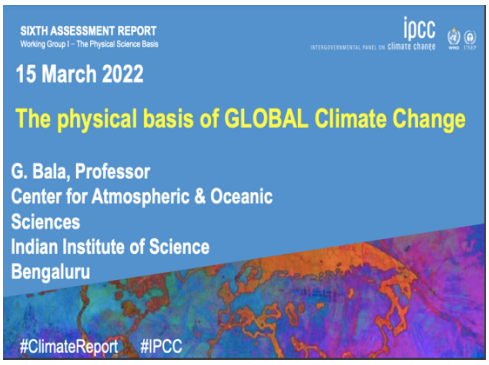
The webinar aimed to engage Senior Officers from Ministries/ Dept. dealing with Sustainable Development, Economic Affairs; National Disaster Management Organizations (NDMOs) from the SAARC Member States. The underlying objective for organizing the webinar was to understand the physical basis of climate change and develop a fair understanding of climate risk assessment and illustrate

the plausible impacts of climate change on different sectors of importance. The webinar was attended by 40 participants from all SAARC nations except Pakistan.

Expert Session 1: Understanding the Physical Basis of Climate Change – The global scenario

About the Speaker- Dr. G. Bala

Dr. Bala is currently a Professor at the Center for Atmospheric and Oceanic Sciences, Indian Institute of Science, Bangalore. He received his Ph.D. in atmospheric and oceanic sciences in 1994 from McGill University, Canada. After two years of Post-doc at the Geophysical Fluid Dynamics Laboratory, Princeton University, he served as a "Physicist" (Climate Scientist) at the Lawrence Livermore National Laboratory (LLNL) between 1996 and 2008. Prof. Bala has served as a Lead Author for the 5th and 6th assessment IPCC WG1 reports.



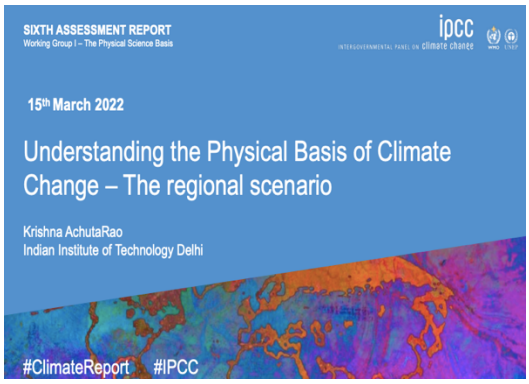
Session Highlights- The first session discussed the broader global picture of global warming or climate change including the latest scientific assessment by IPCC. The session highlighted that many recent changes in the climate system are unprecedented in at least the last 2000 years and the regional changes we experience would increase with increased levels of global warming as for every tonne of CO_2 we emit into the atmosphere would add to future global warming.

Expert Session 2: Understanding the Physical Basis of Climate Change – The regional scenario

About the Speaker- Dr. Krishna Achuta Rao

Dr. Krishna Achuta Rao is Professor and Head of the Centre for Atmospheric Sciences at the Indian Institute of Technology Delhi in New Delhi, India. Prior to that he worked at the Lawrence Livermore National Laboratory in California. Dr. Krishna has been associated with the Intergovernmental Panel on Climate Change (IPCC) since 2001 and was a lead author on the recently released Sixth Assessment Report contribution from Working Group-I. He is currently involved with the United Nations' Ocean Decade "Predicted Ocean" theme.

Session Highlights- The second session discussed the South Asian regional scenario of the physical basis of climate change. The session highlighted that the South Asian monsoon has weakened in the second half of the 20th century and the dominant cause of the observed decrease is the anthropogenic aerosol forcing. The session stressed that heatwaves/humid heat stress and extreme precipitation will be intense and frequent during the 21st century.



Session 3: Impact of Climate Change on Sustainable Development Goals in the South Asian Region

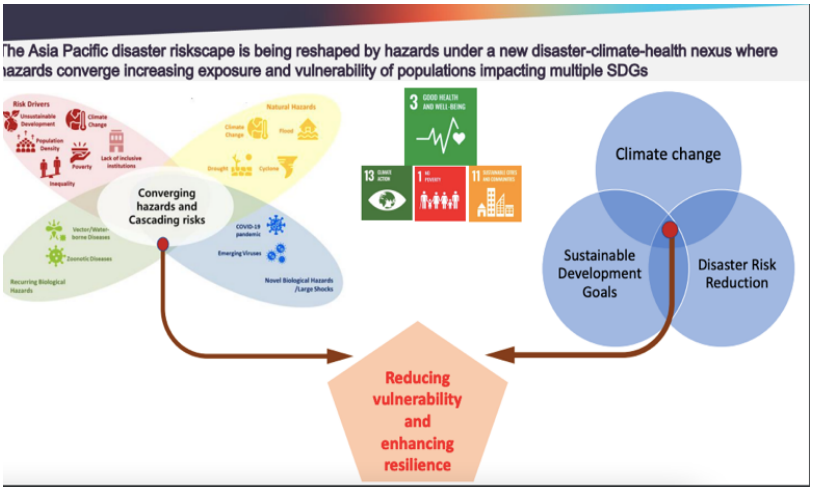
About the Speaker- Dr. Sanjay Srivastava & Dr. Madhurima Sarkar

Dr. Sanjay K Srivastava is presently Chief of Disaster Risk Reduction at UN Economic and Social Commission for Asia and the Pacific (ESCAP). He is the recipient of ISRO's Team excellence award in 2008-09 for his contributions towards harnessing space technology applications for the benefits of rural poor. He has been a lead author of ESCAP's flagship publication – Asia-Pacific Disaster Report since its inception in 2010.

Dr. Madhurima Sarkar - Swaisgood is the Economics Affairs Officer in Disaster Risk Reduction at the United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP). She has a PhD in Health Communication/Public Health from Florida State University. She was a Senior Researcher at Nationwide Children's Hospital and Ohio State University focusing on adolescent health, health communication and health equity.

Session Highlights- The third session provided details of the insights provided by the 'Risk & Resilience portal of UNESCAP' for the SAARC region. During the session it was brought out that for SAARC countries, total number of Health facilities exposed to cascading risk under Multi-Hazard

worst case climate change scenario is 38,370 which is 67% of total health facilities in the region. It was further revealed during the session that for SAARC countries , the total adaptation cost is estimated at $ 56 billion with $52.2 billion for adaptation to climate related hazards and $3 billion for biological hazards and the highest total adaptation cost is recorded for India and Pakistan.



Session 4: Climate Change as Disaster Risk Amplifier – Evidences from the region and Way Forward

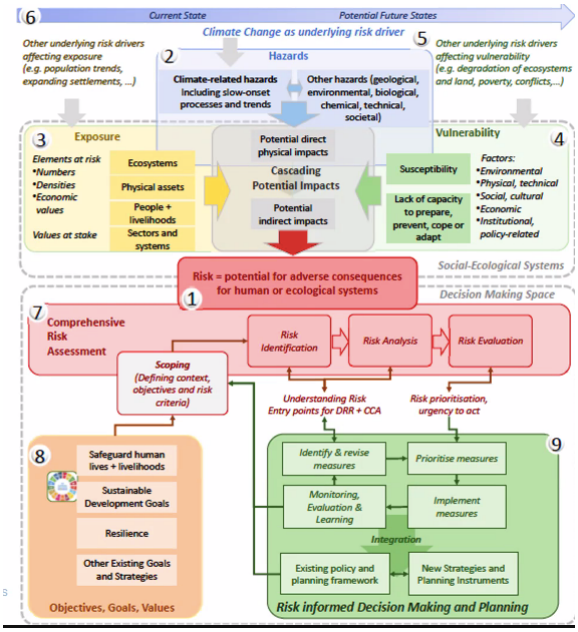
About the Speaker- Mr. Sanjaya Bhatia

Mr. Sanjaya Bhatia, working as Head of Office, UN Office for Disaster Risk Reduction (UNDRR) Global Education and Training Institute (GETI), where he has guided the training of over 9000 government officials globally. He holds a degree in law and a master's degree in Public Administration from New York University. He has authored a number of publications. He has worked with the Government of India (Indian Administrative Service), the World Bank, and the United Nations in the field of disaster risk reduction and climate change adaptation for over 30 years & has managed projects for mainstreaming of disaster risk reduction and CCA and ex-post recovery in a diverse group of countries including Afghanistan, South Sudan, DPRK, Haiti, Honduras, Panama, El Salvador, Ukraine, Algeria, Ethiopia, Somalia, Georgia, and others.

Session Highlights- The fourth session discussed that climate change is increasing disaster impacts, and smart adaptation as a risk management strategy can strengthen resilience to disasters. The session highlighted the fact that disasters undermine climate change adaptive capacity and therefore effective disaster risk management can contribute in achieving adaptation goals. The session ended with an underlying notion that now it is time to shift the paradigm from 'Managing Disaster Risks to Managing Uncertainties'. The session shared some vital reasons to aim for more coherent CCA and DRR approaches, such as:

1. Climate change is driving increasing disaster impacts, and smart adaptation as a CC risk management strategy can strengthen resilience to disasters (hence in Sendai Framework)
2. Disasters undermine CC adaptive capacity, and managing disaster risk can support it (hence in Paris Agreement) and increase vulnerability
3. Both CCA and DRR support achievement of SDGs – and indeed share targets/ indicators
4. Better use of resources: data, expertise and financing
5. NOT striving for coherence presents massive RISK in both DRR and CCA

The session also highlighted ten principles of Climate Risk Management provided by United Nations Office for Disaster Risk Reduction and a framework for Climate Risk Management listed as follow:



6. Country Presentations

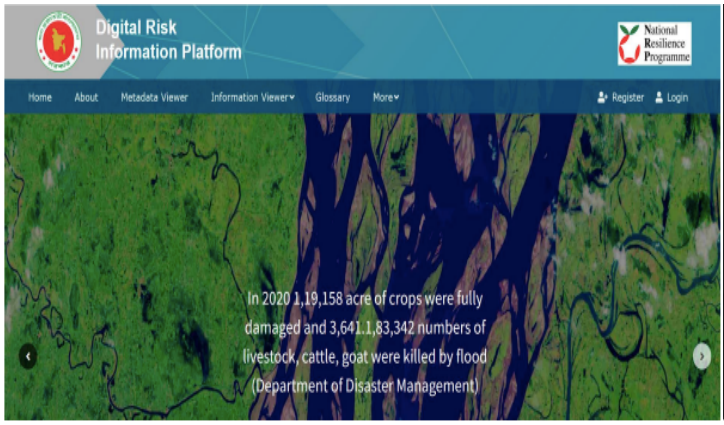
Bangladesh- Individual country presentation for Bangladesh was given by Dr. Nurun Nahar Joint Chief (Joint Secretary) & Project Director, NRP-PD. The presentation highlights include- Disaster Impact Assessment (DIA) tool and Guideline in National Policy Framework. It was also revealed that following issues have been included in 8th Five Year Plan of Bangladesh:

A. Developing DIA Guidelines
B. Promote Supply Chain Resilience
C. Promote Business Continuity Plan (BCP)
D. Develop Industry Sector Risk Profile

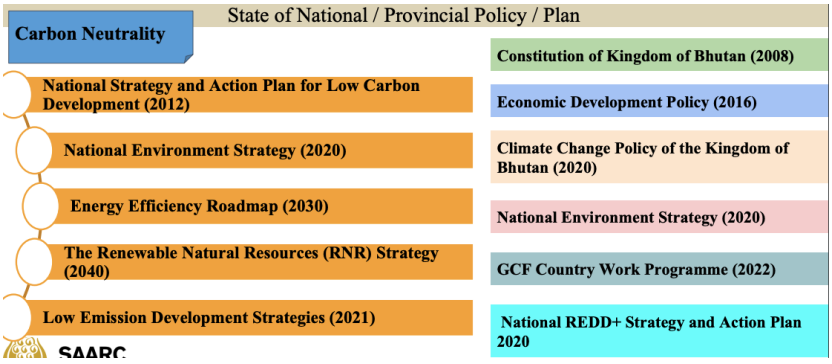
The session also provided details about the Disaster & Climate Risk Information Platform (DRIP) developed by Govt. of Bangladesh. DRIP is a specialized software application for strengthening the

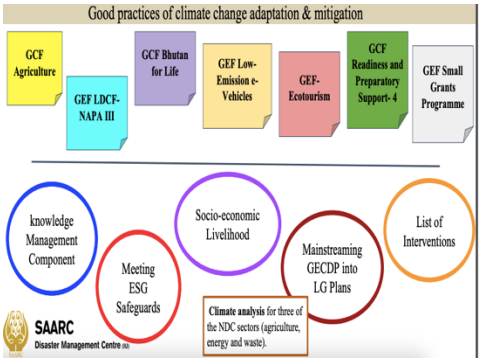
country's institutional capacity for mainstreaming disaster and climate risk information into development planning & budgeting, policies and programs. DRIP's objective include:

A. Integration of information;
B. Common platform, and
C. Assisting government officials with access and analysis.
D. Report generation



Bhutan- Individual country presentation for Bhutan was given by Mr. Dhendrup Tshering. The session highlighted the ways in which Bhutan is drawing the Synergy between climate change and National Priorities & SDGs. The session also provided the details of the progress made by Bhutan in relevant SDGs, mainstreaming Climate Action in Development planning. Regarding progress made in Policy to Support Climate Action following points were illustrated:





India- Individual country presentation for India was given by Mr. Ajay Katuri, Consultant-NDMA. The session provided details of the efforts taken by India in order to reduce emission intensity of GDP by 33 to 35% by the year 2030 (below 2005 levels). Further commitments include:

A. Achieving 40% of cumulative electric power installed capacity would be from non-fossil fuel sources by 2030;

B. Creating an additional carbon sink of 2.5 to 3 billion tonnes of CO2 equivalent through additional forest and tree cover by 2030.

C. India's mitigation strategies have emphasized on clean and efficient energy system, enhanced energy efficiency, resilient urban infrastructure, safe, smart and sustainable green transportation network, planned afforestation etc.

D. India announced schemes to align with its NDC - Swachh Bharat Mission, National Smart Grid Mission and Atal Mission for Rejuvenation and Urban Transformation.

E. Significant leap for renewable energy - one of the world's largest renewable energy expansion programs.

F. India announced International Solar Alliance in COP 25. It currently has 81 member Nations and 102 signatories.

G. India has decided to revise the NAPCC in line with the NDCs under the Paris Agreement to make it more comprehensive in terms of priority areas.

While discussing the progress made in Policy to Support Climate Action it was revealed that Prime Minister's Council on Climate Change announced the following 8 missions under the National Climate Action Plan for Climate Change (29 States/UTs have prepared SAPCCs):

1. National Solar Mission
2. National Mission for Enhanced Energy Efficiency
3. National Mission on Sustainable Habitat
4. National Water Mission
5. National Mission for Sustaining Himalayan Ecosystem
6. Green India Mission
7. National Mission for Sustainable Agriculture
8. National Mission on Strategic Knowledge for Climate Change

Maldives- Individual country presentation for Maldives was given by Ms. Mariyam Shizna. The session highlighted that in 2011, Maldives announced it had signed the world's first Strategic National Action Plan that integrates disaster risk reduction and climate change adaptation. In 2019, Maldives formulated a Strategic Action Plan 2019-2030, which interrogates climate adaptation and mitigation into all sectors. Regarding the progress made in policy to support climate action, following efforts taken by Maldives were discussed:

A. Improved coral reef monitoring and conservation; gender and environment sensitive financial support to the growth and professionalization of smaller scale fisheries and agricultural production.

B. Extension of tourism in locally inhabited islands; implementation of Tourism Training program and Fund Small and Medium Enterprises (SMEs): Targeted support to green SME initiatives.
C. Significantly improved health services overall, including regional hospitals and treatment centres; community health workers on all islands; better access to health services.
D. Climate proofing of Housing , e.g., in the context of new housing units for 20,000 families and support to tsunami affected families.
E. Introduction of user pays principle in biodiversity and ecosystem use; increase of protection and management of coral reefs, wetlands and mangroves; introduction of a comprehensive reef restoration and protection mechanism.
F. Introduction of green energy label; 20% increase of renewable energy in the national energy mix; reduction of 40 million litres of fuel used for electricity generation in 2018-2023.

Nepal- Individual country presentation for Nepal was given by Ms. Reena Chaudhary, Environment Inspector, NDRRMA. The session highlighted that Nepal's 2016 NDC sets a target to maintain 40% of the total area of the country under forest cover. Current forest cover is approximately 44.74% of which 4.38% is another wooded land (OWL). The current soil organic matter content of agricultural land is 2%. The number of the organic fertilizer production plant is 23 and number of improved cattle shed is 100,000. Currently, emission standards are not in place for emissions in the brick and cement industries. Currently, 2.1 % of wastewater and less than 1% of the faecal sludge is treated. In the last five years, 90 % of the population has access to electricity, in particular, renewable energy. Of the total hydropower production of 1286 MW, private sector developed hydropower projects contributed 651 MW, a little over half of the total hydropower production in 2019. The cross-border energy trade has covered almost one-third of the total grid electricity. The per capita electricity consumption has increased 260 KWh (NPC, 2020).

Take Urgent action to combat Climate change and its impacts

Targets and Indicators	Baseline 2015*	Target 2019*	Progress 2019*	Target 2030*
Integrate Climate measures into national policies, strategies and planning				
Number of Countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change				
a) Local adaptation plan preparation (number of local levels)	4	36	68	
b) Community level adaptation plan	31	231	342	
c) Implementation of adaptation plan	0	15	68	
d) Climate smart villages	0	45	42	
Source: *SDG Status and Roadmap:2016-2030,*SDG Progress Report (2016-2019)				

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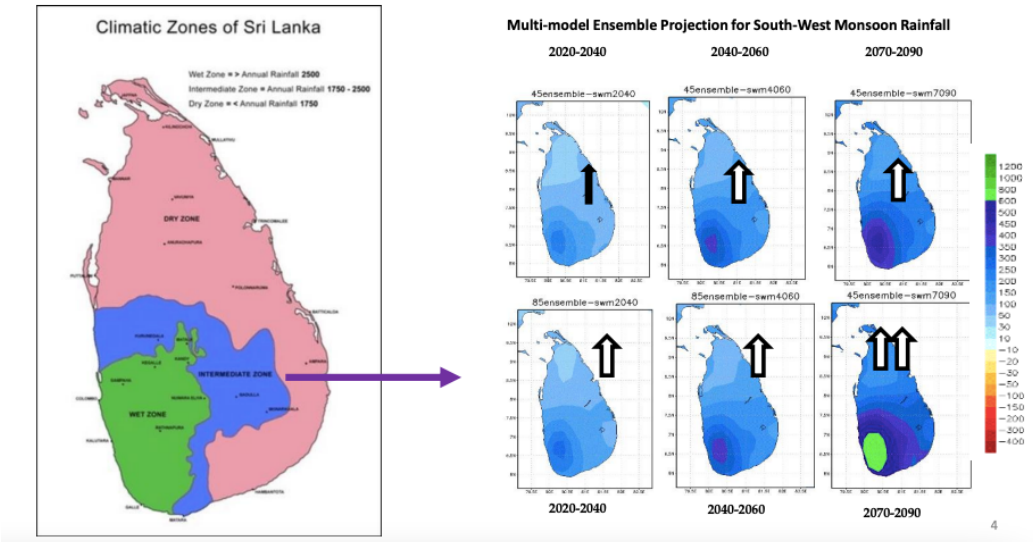
Source: *SDG Status and Roadmap:2016-2030,*SDG Progress Report (2016-2019)				

Following the Rural Energy Policy of 2006, the adoption of several policies and strategies have provided strong and important frameworks to promote rural energy. Some important among them are-

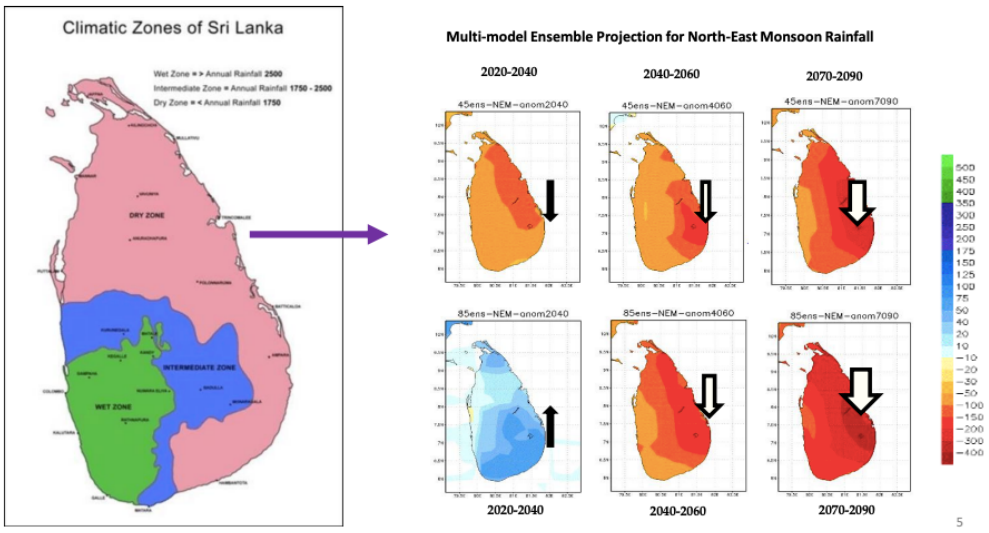
A. Renewable Energy Subsidy Policy, 2016,
B. Renewable Energy Subsidy Delivery Mechanism, 2016,
C. Biomass Energy Strategy, 2017
D. National Renewable Energy Framework, 2017,
E. National Energy Efficiency Strategy, 2018,
F. Climate Change Policy, 2019.

Sri Lanka- Individual country presentation for Sri Lanka was given by Mr. Ruwan Weerasooriya.

Climate Projections for South West Monsoon



Climate Projections for North East Monsoon



During the session it was highlighted following Progress was made in Nationally Determined Contributions (NDCs):

A. First NDCs Submission in 2016.

B. Updated NDCs submission in 2021 with the 6 Mitigation sectors, 9 Adaptation sector and the Loss and Damage sector.
C. Established National Steering Committee for NDC implementation.
D. Established Planning & Monitoring Committees for each sectors.
E. Implementation & Monitoring Plans for all NDC sectors.

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Annexure 1

Program Note for Webinar on

Climate Risk Management in a Changing Environment

Date: 15th March 2022 I Time: (13:30 – 16:50 Hours IST)

Context

The 6th Assessment Report, entitled "Climate Change 2021: The Physical Science Basis" from the Intergovernmental Panel on Climate Change (IPCC)'s Working Group 1, draws up a very precise inventory of climate physics, and is the most important source regarding scientific knowledge on climate change around the world. Though already known, but it is now a fact established by science - **human activity is the cause of the atmosphere, oceans, and land warming**. Thus, there is no denying that climate change would function as a Disaster Risk amplifier - the frequency, duration, nature and intensity of extreme weather events are bound to change. This poses a downside risk to sustainable development of communities and countries.

With this report, the IPCC examines for the first time the **regional aspects of climate change**. Because of worsening climate change, the IPCC warns that each region is expected to experience more simultaneous and multiple changes in climate impact factors, even with a global warming of 1.5°C. The South Asian region, with its exponential development, would be more prone to a riskscape of uncertainty, and thus, it is absolutely necessary to understand the plausible effects and impacts of climate change and develop a consensus towards climate action. Climate change impacts stand to slash up to 9% off the South Asian economy every year by the end of this century, and the human and financial toll could be even higher if the damage from floods, droughts and other extreme weather events is included.

> *By 2050, the collective economy of six countries—Bangladesh, Bhutan, India, the Maldives, Nepal and Sri Lanka - will lose an average 1.8% of its annual gross domestic product, rising to 8.8% by 2100.*
>
> - **Assessing the Costs of Climate Change and Adaptation in South Asia**, ADB

Research released during the CoP 26 (Conference of Parties) shows that the plans countries have laid out so far for reducing emissions (known as Nationally Determined Contributions or NDCs) still add up to a terrifying 2.4°C of temperature rise by the end of the century. Crossing the 2°C threshold is enough to put over **1 billion people under extreme heat stress; bleach over 99% of coral reefs; double the extinction of plant species and intensify the melting of**

sea ice in summer by 10 times, fueling up to 6 meters of sea level rise in vulnerable parts of the world.

To this end, SDMC (IU) proposes to organise a webinar to lucidly illustrate the physical basis behind climate change (doing away with the misnomers like weather, climate variability and climate change), help participants visualize the impacts of climate change on various sectors and take stock of the progress of climate action in the countries of the region.

Objectives

The webinar has been designed to –

1. Help attendees understand the physical basis of climate change and develop a fair understanding of climate risk assessment

2. Illustrate the plausible impacts of climate change on different sectors of importance

3. Document the progress in climate action in the Member Countries

Partners

The proposed webinar would be organised with the following knowledge partners –

1. UNDRR ROAP / UNDRR-GETI

2. UNESCAP

Participants

This webinar aims to engage Senior Officers from Ministries/Dept. dealing with Sustainable Development, Economic Affairs; National Disaster Management Organizations (NDMOs) from all the SAARC Member States.

SAARC
Disaster Management Centre (IU)

Annexure 2

Tentative Agenda

S. No.	Topic	Time	Time Slot	Resource Persons
1.	**Inauguration of the Webinar**	**30 min**	**13:30 – 14:00**	**SDMC (IU)**
	Welcome & Introduction of the Speakers and about the Webinar	*10 min*		**Director, SDMC (IU)**
	Introductory Remarks by Member States	*16 min (2 min each)*		Representative from each of the SAARC Member States
2.	**Technical sessions**	**120 min**	**14:00 – 16:00**	
a.	Understanding the Physical Basis of Climate Change – **The global scenario**	20 minutes	**14:00 – 14:20**	**Dr. Govindasamy Bala**, IISC Bengaluru
b.	Understanding the Physical Basis of Climate Change – **The regional scenario**	20 minutes	**14:20 – 14:40**	**Dr. Krishna AchutaRao**, IIT Delhi
	Question and Answers	10 minutes	**14:40 – 14:50**	
c.	Climate Change as Disaster Risk Amplifier – Evidences from the region and Way Forward	30 minutes	**14:50 – 15:20**	UNDRR
d.	Impact of Climate Change on Sustainable Development Goals in the South Asian Region	30 minutes	**15:20 – 15:50**	UNESCAP
	Question and Answers	10 minutes	**15:50 – 16:00**	
3.	**Documentation of Climate Action of the Member States**	**45 min** *(5 min each)*	**16:00 – 16:45**	Representatives from each of the SAARC Member States **Moderator - Director, SDMC (IU)**
4.	**Wrap up**	**05 min**	**16:45 – 16:50**	**SDMC (IU)**

Webinar on "Climate Risk Management in Changing Environment" on 15th March 2022
organised by SAARC DMC (IU)
List of Participants

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