Climate Services in India – Moving the Needle

The first session consisted of presentations on “User-oriented Climate Services”.
The session began with the inaugural address delivered by Dr. Akhilesh Gupta. As a part of his speech, he highlighted the initiatives undertaken by the government in the field of climate sciences, modeling services as well as dissemination of climate products to the end users.
Several national level and as many as 24 state level centers have come up for capacity building and providing training programs to the people. He spoke of a need for three synergies – at the inter-ministerial, inter-institutional and inter-sectoral levels. He also shared his experiences of developing a full-fledged climate services system in India for which he stressed that private players are to be partnered with.

Mr. Saurabh Bhardwaj stressed upon the use of climate products and services and how the regional modeling products have been used at national, state as well as local levels for reliable projection of temperature and precipitation contributing towards an effective decision making. He shared details of various studies undertaken by TERI in collaboration with the state governments such as Himachal Pradesh, Punjab, Telangana etc., demonstrating how the regional climate projections could aid in the development of state level action plans in combating climate change. Further he demonstrated a web portal, the TERI CLIMATE TOOL (TCT), tailored for effective dissemination of climate information to the stakeholders.

Dr. Ashwini Kulkarni, from Indian Institute of Tropical Meteorology (IITM) outlined her study concentrating mainly upon the problems and challenges faced in the mountainous regions, particularly the Hindukush Himalayan Region. The problems in the Himalayan region are being exacerbated particularly by the low density of observing stations which are not able to collect a good quantity and quality of data. These areas have been experiencing an accelerated warming in the recent past which has led to the fast receding of the glaciers, aggravating into increased risks of flash floods, landslides etc. Her study involved an inter-comparison of a suite of global models (CMIP5) and regional models (CORDEX), assessing their relative performance to represent the climatology of the HKH region.

Dr. Achuta Rao mainly focused his discussion upon the climate extremes in India, emphasizing the role of the Global Framework for Climate Services (GFCS) in the 5 priority areas, which are Agriculture, Disaster, Water, Health and Energy. He particularly touched upon the extreme events in the past, like the heatwaves in 2015 and the Chennai flash-floods during the same year. He shared relevant insights from his study addressing the questions of attributing extreme events to climate change, which would enable more reliable projection of risk and prediction of such events at longer lead times.

Ms. Anu Jogesh stressed the need for mapping climate information for informed decision making under an uncertain future. She mainly talked about the climate tool developed by Acclimitize, together in partnership with World Resources Institute (WRI), known as the PREP tool. This tool focused on the study region of Uttarakhand and integrated global and local earth observations,

climate change and socio-economic data. This can further be visualized as an open source map based online platform.
Ms. Jenny Dissen and Dr. Andrew Ballinger also demonstrated their tool developed at NOAA's North Carolina Institute of Climate Services together in partnership with Value Labs. In their discussion, they emphasized majorly upon the problems in the drafting and implementation of State Climate Action Plans in India. They pointed out that the major challenge was the need to better understand the high resolution regional climate model projections and how to further disseminate and make such projections available to the other parts of the department. In order to provide a solution, they highlighted the various workshops which were organized by NOAA in partnership with TERI, EPTRI and IITM in India. These workshops began with a technical conversation which developed a capability to teach how climate model projections could be used in the State Action Plans. These workshops evolved with the increase in the awareness of the needs of the users. However, these workshops remained highly technical for the decision makers to understand. To reduce the complications and improve the understanding for the climate models of the decision makers, state action planners and other stakeholders, they developed the Climate tool.

The second session was the Panel discussion which incorporated the insights and opinions from the private and public sector as well as academia.
Mr. Abhishek Goyal shared relevant insights from the corporate point of view, where he shared the sustainability practices undertaken at Tata Sustainability Group. He provided pertinent examples of core business practices at TSG based on integrated environmental, social and ethical principles. While he assured that the corporate world is keen on addressing the issue of climate change, a lack of expertise and know-how to make effective use of the climate information was cited as a major deterrent in the process.
Dr. Siva Prasad from Environment Protection Training and Research Institute (EPTRI) shared his experience as an agriculture expert where he utilized the climate services and products for improving agriculture facilities in Telangana. To establish the current usage of fertilizers in the agricultural industry, EPTRI conducted a pilot study analyzing various crops and soil samples with the aim to improve their productivity. He argued that in order to amplify the scale of the study, an effective capacity building plan in the field of microbiology and biogeochemicals is needed, to provide adequate fertilizer advisory in order to mitigate the use of chemicals. He shared relevant information on the knowledge portal on climate change, developed at the EPTRI which functions as a repository for storing and retrieving climate change information at the State level, to be useful to departments of agriculture, forestry, etc. and institutes/universities, public etc. He insisted on the urgent need for an interdisciplinary approach to mainstream climate change in the national development agenda.

Mr. Mihir Mathur mainly focused upon the huge dissemination gap that exists between the users, in this case, farmers, and the service providers. He stressed the need for capacity building for self-informed and self-advised decision making in the field of climate services. Arguing that the impacts of climate change span across sectors and is primarily a global problem, he stressed on the need to provide sector-specific, scenario specific climate information which is tailored to the stakeholder's needs. He shared relevant details of a study carried out at TERI, which primarily focused on assessing the impacts of climate change on the oil and gas sector. A suite of scenario based climate projections were provided to assess the relative vulnerability of the oil and gas sector, and a web portal was developed to portray the dissemination of the generated climate information to the stakeholders.