Climate Services: Navigating into an Uncertain Future 15 <sup>th</sup> February 2018, Time: 13:30 to 15:30	
SPEAKER 1: Mr. Jan Petter Borring	SPEAKER 4: Dr G C Shrotriya
SPEAKER 2: Dr S D Attri	SPEAKER 5: Mr Crispino Lobo
SPEAKER 3: Dr Trond Vedeld and Dr Hege Hofstad	SPEAKER 6: Mr Mihir Mathur
QUOTE 1: JPB	QUOTE 4: GCS
Climate services in the agricultural sector are crucial for a country like India that is, firstly, largely dependent on agriculture (employment wise), and secondly, feeding a large population of the World.	The farmer has not realised the climate change effects to which he is contributing, but he has definitely realised the benefits of using weather based agro advisories, because he has saved on his operational costs and losses due to untimely weather.
QUOTE 2: SDA	QUOTE 5: CL
Through IMD's SMS plan, we plan to reach out to all 95 million farmers and will cover 6500 blocks in 2 years, with about 60 advisory managers.	We noticed that agricultural productivity, despite substantial investments, started declining about 10 years ago. When we studied the reasons, we found that climate and weather was actually adversely affecting this productivity. At that point in time, we decided that we need to provide weather-based agro advisory.
QUOTE 3: TV & HH We aren't as concerned about evaluating the two systems(between climate services systems in India and Norway), but rather we focus on drawing similarities. We think that by finding similarities in such different contexts, we get more credible results.	QUOTE 6: MM I think we're going very well with respect to our plans in developing the adaptive capacity of farmers, but the question is, how much are we able to achieve - how much of our climate services programs are translating to action on ground? And maybe that's where we are "stumbling" on our way to sustainability.
REPORT OF THE SESSION	

Highlights

- Small-scale farmers in rural India require advanced information on weather conditions at the local level, which is where climate services in the agricultural sector come into play. Climate services in agriculture, particularly agro-meteorological advisory, are hence a salient part of the agricultural sector in India whose capacities must be advanced further.
- The dissemination of agro-meteorological advisory and services to rural farmers has been

made simple and effective through the use of mobile telecommunication and the internet.

## **Climate Services: Navigating into an Uncertain Future**

An emerging policy field in the agriculture sector, climate services builds on conventional meteorological and agro-meteorological services. Farmers across India, especially small-scale farmers, depend on advanced information and warning about weather conditions at the local level. The proliferation of mobile telecommunications and the internet—at increasingly affordable rates—has made this channel an efficient way of delivering weather-based agro-advisories to the farmers at a large scale in India. In this context, a thematic track, "Climate Services, Navigating into an Uncertain Future", analysing the conditions for effective governance of climate services in India and challenges in terms of timeliness and accuracy of the advisories was organized on February 15, 2018.

Highlighting the relevance of climate services and its impact on farmers, Ambassador Ajai Malhotra, in his opening remarks, pointed out how south Asian farmers were at the highest risk. He emphasized the key factors to effective adaptation, such as advanced information dissemination and the importance of effective communication between local institutions and government. He also highlighted the focus areas of TERI's climate services research which include institutional coordination mechanisms and the need for co-development of tailor-made agro met advisories.

In his inaugural address, Mr Jan Petter Borring,

underlined the importance of climate services in a highly populated and agro-dependent country, such as India, thus, emphasizing on how to make climate science an effective tool for adaptation at the local level. According to him, making Indian farmers' climate proof is in the interest of other countries also since Indian agriculture system feeds a large part of world population..

Dr S D Attri introduced the components and principles of the Global Framework for Climate Services (GCFS) and highlighted its relevance for India, particularly in the agricultural sector. He stressed on the need for early warning systems and mentioned about the success of the Indian Meteorological Department's AAS-GKMS plan for dissemination of agro-meteorological advisory. He emphasized on the urgent need for a closer partnership between users and suppliers of climate services in order to make these more tailored and relevant at the spatial scales required by the users.

Following this, Dr Trond Vedeld and Dr Hege Hofstad presented their study on the comparison of climate services system between India and Norway. The three-year long project collaboration with TERI and two other Norwegian organizations, aimed to compare government mechanisms in climate services and focused on the key challenges of agro-meteorological service management between the two countries. They iterated the reason for comparing these two particular countries on similar grounds in order to improve the credibility of the results. Their presentation focused on comparing the core features of the institutional structures, the challenges of knowledge creation and communication, and the pathways to further development of climate services through the lessons learnt in both countries. Certain challenges identified in both the systems were limited two-way communication between climate service provider and end user, inadequate decentralization, and lack of integration of farmer knowledge into advisory system.

Dr G C Shrotriya, in his address, emphasized on the importance of telecom for information dissemination, thus diving into the details of IFFCO Kisan's successful SMS programme for agro-meteorological advisory. Describing the role of IFFCO's voice call service and the Kisan Call Center, he highlighted three information streams which are of great interest to farmers—i) weather forecast; ii) market prices; and iii) crop advisory. Further, it was suggested as to how inclusion of early warning systems for disease management could be disseminated to farmers across the country after conclusive research.

Mr Crispino Lobo spoke about climate services for Community Based Adaptation (CBA) through his experience of steering Watershed Organisation Trusts's (WOTR) program on Agrometereology. His presentation shed light on various aspects concerning the channel of information in agro-met advisory dissemination. He went on to highlight how their programme focuses on locale-specific weather and crop advisory bridging the gap between science and field reality. He emphasized on the need of quick feedback systems to improve the advisory content and shared how WOTR is moving towards developing a dynamic crop calendar with their collaborating partners like IMD etc. He impressed on the need for visualizing farmers as co-creators of knowledge and illustrated how Whatsapp groups could be enablers of two-way communication.

Mr Mihir Mathur then presented the findings from the study on the climate services system in India, where he suggests that the climate services system is "stumbling towards sustainability" because the climate service providers are moving ahead in their plans of upscaling the agromet advisory systems but the question remains – how much are they transforming on ground? And may be that is where we all are still stumbling. He then vivaciously explained the Cynefin Framework, which was used in the study to determine the decision-making pattern of farmers and how the agromet advisory system corresponds to it. He concluded by mentioning that the decision making process that happens at farmer level is rather fuzzy and unordered while the advisory generation process follows a scientifically ordered process and this difference limits the advisory to be fit for purpose of farmer's decision making at all times.

In his closing remarks, Dr Geir Heierstad reiterated the importance of climate services and building climate service capacities of farmers at the village level. He concluded the session by mentioning the need to develop a collaborative climate services project in India which focusses on building climate services capabilities—human and institutional—and involves soft elements, such as building trust between supplier and user, improving the process of co-development, and aiding action at the grassroots. He also emphasized on bridging the divide between scientific knowledge and farmers' awareness levels in order to build the trust.

## Picture Gallery





