फाइल सं. आईआईटीएम/आरटीआई/नवम्बर 19/File no. IITM/RTI/Nov.19 भारतीय उष्णदेशीय मौसम विज्ञान संस्थान/Indian Institute of Tropical Meteorology (भारत सरकार, पृथ्वी विज्ञान मंत्रालय का स्वायत संस्थान / An Autonomous Institute of Ministry of Earth Sciences, Govt. of India)

> डॉ. होमी भाभा रोड/Dr. Homi Bhabha Road, पाषाण/Pashan, पुणे/Pune -411008. भारत/India

आईआईटीएम/आरटीआई/मार्च.18-3/ IITM/RTI/Nov.19//2/50

दिनांक/Date:

2 8 NOV 2019 नवम्बर 2019.

सेवा में/To,

श्री कुशाग्र / Mr.Kushagra, द्वारा जगदिश नारायन सिंग / C/o.Jagdish Narayan Singh, पोस्ट् हाथिदाह पट्ना /At Post Hathidah, Patna पिन 803301 बिहार /Pin 803301 Bihar

विषय /Sub: सूचना अधिकार अधिनियम 2005 अंतर्गत जानकारी प्राप्त करना ।

Seeking information under RTI Act, 2005

संदर्भ/Ref. : आरटीआई आवेदनपत्र 04.11.2019, जो दिनांक 07.11.2019 को सीपीआईओ

आईआईटीएम पर प्राप्त ह्आ ।

RTI application dated 04.11.2019, which was received at CPIO, IITM on 07.11.2019

महोदय /Dear Sir,

कृपया अपना उपर्युक्त विषय संबंधी दिनांक 04.11.2019 का आवेदनपत्र देखें, जो दिनांक 07.11.2019 को इस कार्यालय द्वारा प्राप्त किया गया है।

Please refer to your RTI application dated 04.11.2019, which was received by this office on 07.11.2019 on the above mentioned subject.

एसीटी/आरटीआई/2019, दिनांक 22.11.2019 के अनुसार संबंधित अधिकारी द्वारा प्रदान किया गया उत्तर इसके साथ संलग्न है ।

The reply provided by the concerned office vide no. ACT-RTI/2019 dated 22.11.2019 is enclosed herewith.

यदि आप सूचना का अधिकार अधिनियम की धारा 19 के अनुसार अपील करना चाहते हैं, तो आप इस पत्र की प्राप्ति के 30 दिनों के भीतर अपीलीय प्राधिकरण से, ऐसा कर सकते हैं।

In case you intend to prefer an appeal as per section 19 of the Right to Information Act, 2005, you may do so to Appellate Authority, within 30 days of the receipt of this letter.

अपीली प्राधिकारी / Appellate Authority :

प्रोफेसर रवि एस. नन्जुनडैया, निदेशक / Prof. Ravi S. Nanjundiah, Director भारतीय उष्णदेशीय मौसम विज्ञान संस्थान / Indian Institute of Tropical Meteorology डॉ. होमी भाभा रोड़, पाषाण, पुणे - 411 008 / Dr. Homi Bhabha Road, Pashan, Pune - 411 008.

आपका / Sincerely,

82

(अनुपम हाजरा) /(Anupam Hazra) वैज्ञानि -एफ़ तथा कें.ज.सू.अ., आईआईटीएम Scientist F & CPIO, IITM

Copy to:

1. LIP Section - for upload in RTI page.

अनुपम हाजराः 27/11/2019

(अनुपम हाजरा) /(Anupam Hazra) वैज्ञानिक एफ़ तथा कें.ज.सू.अ., आईआईटीएम Scientist F & CPIO, IITM

## Centre for Climate Change Research (CCCR) Indian Institute of Tropical Meteorology

No. ACT.RTI/2019

Date: 22/11/2019

**Sub.** Information sought by Shri Kushagra, C/o Jagdish Narayan Singh, Ex-MLA At abd P.O. Hathidah, Patna, Bihar, 803301

Ref. IITM/RTI/November/2019

With reference to the note (No. IITM/RTI/November/2019) dated 7 November 2019, on the above mentioned subject, reply is as follows:

1. Total Expenditure on Climate Change Research by ministry in 2018-2019

This information may be obtained from IITM Accounts Department / MoES.

2. How has the Cop-21 Agreement been affecting the Indian research since its inception?

At COP 21 in Paris, on 12 December 2015, Parties to the UNFCCC reached a landmark agreement to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future. The Paris Agreement builds upon the Convention and — for the first time — brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort. At COP 21 in Paris, on 12 December 2015, Parties to the UNFCCC reached a landmark agreement to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future. The Paris Agreement builds upon the Convention and — for the first time — brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to increase the ability of countries to deal with the impacts of climate change, and at making finance flows consistent with a low GHG emissions and climate-resilient pathway. To reach these ambitious goals, appropriate mobilization and provision of financial resources, a new technology framework and enhanced capacity-building is to be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives.

The Indian Government is also a signatory to the COP-21 Paris Agreement on Climate. The COP-21 has provided an important opportunity to enhance research capabilities on the science, societal and environmental aspects of climate change.

3. What are the current objectives of the Centre for Climate Change Research (CCCR) under MoES?

The Centre for Climate Change Research (CCCR) since its inception in 2009 has the mandate to build in-house capacity in global and regional climate modeling to address all issues concerning the science of regional and global change with particular emphasis on the South Asian monsoon system

- Identify and explore new areas of research that will contribute to the fundamental understanding of the Earth's climate system.
- Enhancement of knowledge on regional climate change over the Indian subcontinent.
- To understand the nature of biogeochemical interactions and their response to environmental change.
- To understand impacts of global warming on planetary scale phenomena like monsoon and El Niño.
- To understand the interactions of atmospheric chemistry with the tropical and monsoon climatic processes using chemistry-climate model simulations and observations.
- To understand past climatic and monsoon rainfall variations by reconstructing responsive climate parameters, going back to a few thousand years, using a wide network of high resolution proxies such as tree-ring, historical records, speleothems, corals etc. over different parts of India and Asian Monsoon region.
- To understand and quantify the processes that control net eco-system exchange of CO2, energy, water vapor and quantification of these fluxes at different time scales by establishing Eddy Covariance flux towers at a variety of ecosystems and making measurements of atmospheric CO<sub>2</sub> and other greenhouse gases.
- To create and update information reservoirs for better assessment of changes and impacts.
- To generate technology based knowledge products based on climate studies.
- Building linkages with national and international research groups to optimally leverage scientific capabilities for climate change research.
- 4. What will be the strategy for the next 10 years to involve adaptation to climate change?

Keeping in view the aforementioned objectives of the CCCR, the strategy of the CCCR for the next 10 years will be to:

- Develop human capability to addressing the key scientific issues of climate change using observational and model based investigations
- Develop a community Earth System Model from India for long-term climate change investigations
- Dissemination of climate information to users and stakeholders
- Facilitate impact assessment studies to understand the sectorial impacts of climate change on water resources, agriculture, health, etc.
- Conduct training and outreach workshops to enhance public participation for adaptation and mitigation of climate change.

5. What is the current In-House capability and technology to combat the rising pollution index and climate change in the country?

The CCCR has developed an Earth System Model (IITM-ESM) to address the longterm critical need in India for a climate model that would provide reliable future projections of monsoon rainfall. The IITM-ESM marks a successful climate modeling development for contributing to the forthcoming CMIP6 experiments and the next IPCC AR6 assessment, - the first climate model from India. CCCR has also generated an ensemble of high resolution downscaled projections of regional climate and monsoon until 2100 for the IPCC climate scenarios, which are being used for climate change impact assessment studies and for quantifying uncertainties in the regional climate projections.

> Dr. R. Krishnan **Executive Director, CCCR**

To,

Dr Anupam Hazra

Scientist F and CPIO, IITM

1) Pl. forward to RTI applicant. 2) Pl. Copy to LIP for upleading.

उत्तसम हाजरा, 26/॥/19