

भारत सरकार  
भारत मौसम विज्ञान विभाग  
महासागर भवन, सी जी ओ कॉम्प्लेक्स  
लोदी रोड, नई दिल्ली - ११० ००३

ASC-33/project/NBSSLUP/2014

Government of India  
India Meteorological Department  
Mahasagar Bhavan, C.G.O. Complex  
Lodi Road, New Delhi - 110 003

Dated: 07<sup>th</sup> December, 2015

To

Dr. S.K. Singh  
Director  
National Bureau of Soil Survey and Land Use Planning  
Amaravati Road, Nagpur-440 033

**Subject:** - Collobarative project in the field of Natural Resource Management.

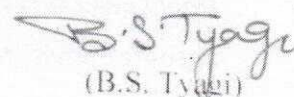
**Reference:** - Your letter No. 14386 dt. 22/05/2014

Sir,

I am directed to convey the approval of the competent authority for technical collobaratioin of India Meteorological Department (IMD) with National Bureau of Soil Survey and Land Use Planning (NBSS&LUP) for exchange of data, information and techniques/ tools to generate location specific/spatial agromet products including revision of the Agro-ecological Regions (AER) and Agro-ecological Sub-Regions (AESR) of India. It may be mentioned that the MoU between IMD and ICAR has provison for exchange of data, information and expertise (Copy enclosed). The responsibilities of IMD and NBSS&LUP Nagpur are as follows:

1. Dr. N. Chattopadhyya, Scientist-F will act as Nodal Officer from IMD for the collaborative project in the field of Natural Resource Management with NBSS&LUP, ICAR, Nagpur.
2. To prepare the roadmap of collaborative revised project alongwith specific data need and output to be delivered.
3. IMD will supply historical daily rainfall data from 1990 to 2014 for entire country.
4. NBSS&LUP Nagpur should provide layer wise - soil data (in digital form) at finest resolution available (both Spatial & station) for use in water balance/DSS in Gramin Krishi Mausam Sewa (GKMS) scheme and crop yield forecasting in FASAL scheme rendered by IMD, MoES.

Your Sincerely,

  
(B.S. Tyagi)

Assistant Meteorologist

CC: Dr. N. Chattopadhyya, Scientist-F and Head (Agrimet Division), Pune  
With advice to initiate the desired action



**MEMORANDUM OF UNDERSTANDING  
BETWEEN  
INDIA METEOROLOGICAL DEPARTMENT  
(MINISTRY OF EARTH SCIENCES)  
AND  
INDIAN COUNCIL OF AGRICULTURAL RESEARCH  
FOR ESTABLISHMENT OF DISTRICT AGROMET UNITS, AUTOMATIC WEATHER STATIONS, DATA  
SHARING and PROMOTING AGRO ADVISORIES**

1. The memorandum of understanding made this day i.e. 4th June ~~May~~, 2014 between the India Meteorological Department (IMD), Ministry of Earth Sciences (MoES) with its office at Mausam Bhawan, Lodhi Road, New Delhi- 110003, (hereinafter referred to as "IMD" which expression shall unless excluded by or repugnant to the context be deemed to include its successors in office and assignees) of the one part AND the Indian Council of Agricultural Research (ICAR), Ministry of Agriculture (hereinafter referred to as "ICAR" which expression shall, unless excluded by or repugnant to the context be deemed to include its successors in office and permitted assignees) of the other part.

Whereas the Government of India has entrusted upon India Meteorological Department (IMD) the task of establishing weather observing system and development of Gramin Krishi Mausam Sewa in the country. In the pursuance hereof, IMD has set up in the country a network of about 130 Agro-Meteorological Field Units (AMFUs) which are multidisciplinary units responsible for preparation and dissemination of district agromet advisories during XI<sup>th</sup> FYP. These AMFUs are located at State Agricultural Universities, ICAR centres and other institutions. Each AMFU utilizes the relevant output products including weather data from conventional and automatic weather station (AWS) provided by IMD and ICAR to generate specific advisories for agricultural management for the respective districts of Agro- climatic Zones identified under the area of its jurisdiction and disseminate the same to the farming community. Under Gramin Krishi Mausam Sewa IMD proposes to establish District AgroMet Units (DAMU) in 240 selected districts, in addition to already operating 130 AMFUs /DAMUs, in order to meet the said expansion. Among other responsibilities, DAMU will receive weather forecast from IMD to prepare & disseminate sub-district level agromet advisory bulletins.



ICAR through ALL India Co-ordinate Research Project on Agro- meteorology (AICRPAM) pursuing R&D on Agro-meteorology through a network of 25 centres located with SAUs in the country for improvement in weather based advisory and strengthening outreach of advisory bulletin to the farming community. Central Research Institute for Dry Land Agriculture (CRIDA) and National Initiative on Climate Resilient Agriculture (NICRA) projects of the Indian Council of Agricultural Research aims to enhance resilience of Indian agriculture to climate change and climate variability through strategic research and technology. It also provides agro advisories to the crop weather outlook, website established by AICRPAM, CRIDA and guides the Ministry of Agriculture on contingency planning during the crop season.

2. Agrometeorology is an important multidisciplinary subject. Hence, ICAR maintains Agromet observatories as well as Automated Weather Stations (AWS) and record Agromet observations at its Institutions, National Research Centres, Project Directorates, Krishi Vigyan Kendras (KVK) etc. to generate agrometeorological information for use in studies on crops, pests & diseases, soil, agro-forestry, livestock, horticulture etc. Such data will help ICAR Institutes to study crop-weather relationship, relationship between crop-weather and pest/disease and develop region/location specific agromet predictive models.

As IMD and ICAR are operating mutually supportive activities, it is good to develop structured understanding of roles and responsibilities for working the service more useful, which is as under:

### 3. OBLIGATIONS OF IMD

- 3.1 IMD agrees to provide technical guidance, procure, install and maintain Automatic Weather Station (AWS) at all ICAR centres and Krishi Vigyan Kendras (KVKs) by bringing them under national network of IMD.
- 3.2 IMD agrees to provide maintenance of AWS and inspection of observatory as and when required.
- 3.3 IMD agrees to provide training to personnel / scientists posted at DAMU.



- 3.4 IMD agrees to share historical and current weather data including measured ET data from Meteorological observatories / Agromet observatories/ AWS/ lysimeters to ICAR represented by CRIDA for its research use.
- 3.5 IMD agrees to continue rendering technical support to DAMU for conventional Agromet Observatories.
- 3.6 IMD agrees to bear that the entire expenditure to be incurred towards establishment of AWS.
- 3.7 IMD agrees to share records on extreme weather events like hails, frost, heat waves, cold waves etc. with ICAR.
- 3.8 IMD agrees to enable online access to weather data from all the AWS (existing ones and newly planned) to ICAR represented by CRIDA.
- 3.9 IMD agrees to bear the salary, travel and contingency allowances for post of Scientist/Assistant Professor in the discipline of Agrometeorology working under DAMU in KVK as per the salary structure of ICAR/ SAUs. IMD will provide the required funds to the ICAR / ZPDs. The host institute will recruit the Agrometeorologist as per its service conditions. All incremental expenditure as a result of promotion of these incumbents to higher scale under Career Advancement Scheme will be borne by IMD.

#### 4. OBLIGATIONS OF ICAR

- 4.1 ICAR agrees to provide suitable site with adequate space (36 m x 36 m) at prime locations in research field in the farm area of ICAR centres and KVKs for installation of AWS
- 4.2 ICAR agrees to provide suitable wire fencing with locking arrangement to protect the observatory at their centres.
- 4.3 ICAR agrees to provide security and watch and ward for agrometeorological/ automatic weather stations installed in the KVKs.
- 4.4 ICAR agrees to exchange data on soil properties and yield recorded at their centres to DAMUs / IMD.



- 4.5 ICAR agrees to encourage and guide scientists posted at DAMU for active participation in supervision, exchange data with other organisations as per dynamic needs in the system.
- 4.6 ICAR agrees to enable online access to weather data from all the AWS and conventional agrometeorological observatories in KVKs and Research Centres (existing and new ones) to IMD.
- 4.7 ICAR/SAUs agrees to deploy the scientists/Assistant Professor so recruited to supervise the Meteorological Observatory/ AWS, conduct experiments related to agromet advisories and issue weather based agro advisories in the jurisdiction of the respective DAMU under KVK, based on IMD forecast.
- 4.8 ICAR agrees to provide periodic cleaning of AWS premises and local support for its maintenance.

## 5. COMING INTO FORCE

This MoU shall be deemed to have come into force from the date of signing of memorandum and shall continue for period of five years. All rights and obligations of IMD and ICAR shall be deemed to have commenced and accrued from that specified date.

### EXTENSION/TERMINATION of MoU

Three months prior to this memorandum of understanding (MoU) coming to end the operation of this understanding may be extended by mutual consent for such period or periods as may be considered desirable.

Requests for any major change or termination of this MoU shall be furnished by either party to the other for consideration not less than 90 days in advance of the desired date for effecting change/termination. However, all liabilities for the parties accrued during the period of operation of MoU such as settlement of accounts, handing over of completed research works/results, final drawings etc., will survive even after the expiry of the MoU. All the equipment and material set up by IMD shall be the property of IMD and shall be restored to IMD in case of termination of MoU.

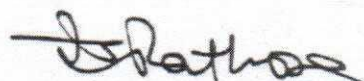
6. **ARBITRATION AGREEMENT**

All documents/ differences of opinion/ disputes regarding interpretation of the provisions of this Memorandum of Understanding shall be resolved by mutual consultation by the signatories, failing which dispute on differences shall be referred to the sole arbitration of a person nominated by the Secretary, ICAR. The award of the Arbitrator shall be final and binding on both the parties. Arbitration proceedings shall be governed by the existing law on Arbitration matters.

7. In witness whereof the parties here to have executed this Memorandum of Understanding.



(Dr S Ayyappan)  
Director General  
Indian Council of Agricultural Research  
New Delhi



(Dr LS Rathore)  
Director General of Meteorology  
India Meteorological Department  
New Delhi

4/6/14

(Dr. L. S. RATHORE)  
Director General of Meteorology  
India Meteorological Department  
Ministry of Earth Sciences  
Mausam Bhawan, Lodi Road,  
New Delhi-110003