





# **ANNUAL PROGRESS REPORT**

## **2019-20**

**on**

**Establishment of District Agro-Met Units (DAMU) at district level  
in Krishi Vigyan Kendras (KVKs), ICAR under the Project  
Atmospheric & Climate Research Modelling Over serving & Services  
Scheme (ACROSS)**



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## **PREFACE**

Weather is one of the most important factors affecting the agricultural production. The increase in climatic variability and associated extreme weather episodes such as erratic rainfall distribution, abrupt change in day and night temperatures during crop season and sudden outbreaks in pest disease population are throwing challenges to farmers. Nowadays, with the advancement of observational network and forecasting technology, Agromet Advisory Service (AAS) network is being extended to sub-district/block level by setting up District Agro-Met Units (DAMUs) in the premises of Krishi Vigyan Kendra (KVKs) of ICAR through ATARI's during 2018-19 as per MOU signed between ICAR and IMD, New Delhi.

Gramin Krishi Mausam Seva was launched under sub-scheme entitled "Atmospheric & Climate Research Modeling Observing System & Services (ACROSS) by Ministry of Earth Sciences having **India Metrological Department** looking towards this scheme. IMD along with ICAR is installing District Agro Metrological Unit under Gramin Krishi Mausam Sewa in 16 Krishi Vigyan Kendra's of ICAR-ATARI, Zone-I.. During the year 2018-19 funds were provided to 16 KVKs for setting up the DAM Units in the selected districts.

It is our privilege to put before you the salient achievements of DAMU centres during 2018-19 to 2019-20 in this publication. We extend our sincere thanks IMD, New Delhi for providing funds for the implementation of the project. We also thank Dr. A.K. Singh Deputy Director General (Agricultural Extension) and Dr. R.S. Poswal Assistant Director General (Agricultural Extension) for their guidance and helping in bringing out this publication. We also acknowledge the assistance received from Dr. Rajbir Singh, Director, ICAR-ATARI, Zone-I and the most importantly the end-user of these technologies i.e. the farming community. We congratulate and duly acknowledge the sincere inputs of the dedicated team of Scientists of ATARI for bringing this document in usable form. We are sure that the efforts under this project will bear fruits in near future with the perceptions that farmers' will adopt these technologies for minimizing the losses and reducing the risk due to changing climate and variability.

Authors

## **1. INTRODUCTION**

Weather is one of the most important factors affecting the agricultural production. The increase in climatic variability and associated extreme weather episodes such as erratic rainfall distribution, abrupt change in day and night temperatures during crop season and sudden outbreaks in pest disease population, especially in developing countries, are throwing challenges to sustaining production levels of different crops. One strategy that farmers can adopt to sustain or increase crop yields in the face of a highly variable climate is to manipulate the crop environment through improved management strategies for adaptation. Agriculture is one of the most important sectors for India. Proper planning for this sector requires relevant and reliable information in timely manner. Information on crop, its stages and the week by week weather during the crop season is essential for proper management of agriculture crops. Thus, farm operations planned in conjunction with weather information are very likely to curtail the costs of inputs and various field operations.

Farmers were not well aware about weather forecasting and their utilization in daily based agricultural operations at block level. Nowadays, with the advancement of observational network and forecasting technology, Agromet Advisory Service (AAS) network is being extended to sub-district/block level by setting up District Agro-Met Units (DAMUs) in the premises of Krishi Vigyan Kendra (KVKs) of ICAR through ATARI's during 2018-19 as per MOU signed between ICAR and IMD, New Delhi. Gramin Krishi Mausam Seva was launched under sub-scheme entitled "Atmospheric & Climate Research Modeling Observing System & Services (ACROSS) by Ministry of Earth Sciences having India Metrological Department looking towards this scheme. IMD along with ICAR is installing Agro metrological Units in selected 200 KVKs during Phase-I for the Weather related Advisories for the farmers. These units are being established for the accurate weather related information to farmers so that the information can be utilized by the farmers for their farming.

As the number of advisories will increase to ~6500 (sub-district/block level) from present 660 (district level), there is urgent need of automation of advisories preparation. During the year, India Metrological Department (IMD) provided funds for functioning of Gramin Krishi Mausam Seva (GKMS) under Atmospheric & Climate Research Modeling Observing & Services (ACROSS) scheme of IMD, New Delhi to establish District Agro Metrological Unit under Gramin Krishi Mausam Sewa in 16 Krishi Vigyan Kendra's of Zone-I. During the year 2018-19 funds were provided Rs. 4.80 lakhs for 16 KVKs each for setting up the infrastructure and

training of farmers and Rs. 3.20 lakhs were provided to ATARI for implementation of the programme under DAMU in KVKs. An amount of Rs. 80,00,000 was released during 2018-19 for setting up of District Agrometrolgy centres for 16 KVKs in the Zone. An amount of Rs.9474086.00 was released by IMD New Delhi for working of DAMUs in the KVKs of Zone-I during the year 2019-20. **(Annexure-I).**

DAMU will frame the sub-district/ block level agromet advisory bulletins and disseminate to farmers using multi-channel communication mechanism in the country to reach out farming household. Agromet Advisory Bulletin (AAS) is a comprehensive guide for farmers which provides information on forecast weather for next five days, planting, sowing, stage-wise pest disease infestation information and preventive measures and also harvesting periods of locally adapted crops in a specific agro-ecological zone. At present, ~40 million farmers are receiving SMS of Agromet advisories in the country through mKisan portal of Mo Ag & FW.

## **2. OBJECTIVES**

- i. To improvise the existing district level Agromet Advisory Services (AAS) to deliver crop and location specific AAS to farmers at block level
- ii. To establish appropriate dissemination and support system for weather-based crop advisories
- iii. Preparation of Agrometeorological Advisories Bulletins (AAB) on the basis of medium range weather forecast received from respective Meteorological Centre (MC) and current crop situation in consultation with agricultural scientists' disciplines to deliver crop and location specific AAS to farmers at block level
- iv. Dissemination of weather forecast and weather based agromet advisory bulletins through SMS by mKisan portal, personnel contacts, electronic media and print media especially on the warning of extreme weather events throughout the crop life cycle (operations from pre-sowing period to post-harvest) and extend to allied areas like Bee Keeping, livestock, Poultry, Pig and Fish farming
- v. Training to extension workers as well as farmers along with climate awareness programmes at village level and to reduce the farm losses and input cost through weather based agro-advisory

### **3. INFRASTRUCTURE AND WORKING OF ATARI ZONE-I(LUDHIANA)**

- **Details of Manpower:**

As the network under DAMU is expanding, Zone-I is going to recruit Agromet SMS and Agromet observer in total 16 KVK's of Punjab, Himachal Pradesh, Jammu & Kashmir and Uttarakhand. During this year, 09 Subject Matter Specialists (SMS) and 02 Agromet Observer posts have been filled in the KVKs for running this project efficiently in this Zone. The data related is presented in Table 1

**Table 1: State wise list of KVKs of Zone-I in which DAMU will be established**

Sr. No.	Name of State	Name of KVK	Recruited	
			Agromet - SMS	Agromet observer
1	<b>Punjab</b>	Ropar	1	0
2		Jalandhar	1	0
3		Ferozpur	1	0
4		Moga	1	0
5		Barnala	1	1
6	<b>Himachal Pradesh</b>	Chamba	0	0
7		Bilaspur	1	0
8		Mandi	1	0
9		Sirmaur	1	0
10	<b>Jammu &amp; Kashmir</b>	Baramulla	1	1
11		Kathua	0	0
12		Kupwara	0	0
13		Reasi	0	0
14	<b>Uttarakhand</b>	Almora	0	0
15		Nainital	0	0
16		Pithouragarh	0	0
<b>Total</b>		<b>16</b>	<b>9</b>	<b>2</b>

- **Annual review meeting cum training of GKMS**

A training programme was conducted during the year by IMD Delhi with the collaboration RVSKVV, Gwalior University from 18-20 December, 2019 at RVSKVV, Gwalior, Madhya Pradesh for the recruited Subject Matter Specialist (Agrometeorology) under the project. The main objective of the meeting was to review implementation of GKMS scheme during preceding year and prepare strategic plans on operational aspects like generation of value added weather forecast, Agromet Advisories and Agromet products, dissemination of Agromet Advisories, awareness/outreach programmes and capacity building. Different dignitaries and experts delivered the lectures about the weather forecasting and climate change. They were also discussed about implementing strategies for augmentation of agromet services, enhancing weather forecast and observations including online access to observational data, capacity building and automated generation of Agromet Advisory Service (AAS) bulletins to block level. Four KVKs of Zone-I were participated in this training programme at Gwalior. The recommendations of the Annual Review meeting are attached in **Annexure-III**

- **Instruments procured under the project (2019-20)**

1. Computer
2. Printer
3. Laptop
4. Photostat machine
5. Hot air oven
6. Digital weighing balance
7. Soil auger
8. Soil moisture boxes
9. Thermometer- Maximum, Minimum, Dry bulb, Wet bulb
10. Soil Thermometer
11. Rain gauge
12. Wind vane
13. Cup anemometer
14. Digital moisture meter
15. Hard Disk
16. U.P.S.



**Automatic Weather Station (AWS) at**

**KVK Jalandhar (a)**

**KVK Ropar (b) of Punjab**

#### **4. DETAILS OF AGROMET ADVISORY SERVICES**

District Agro Meteorological Units (DAMU's) is being received the weather forecast from their respective Meteorological Centre (MC) on every Tuesday and Friday as five days forecast for 8 parameters viz., rainfall, maximum and minimum temperature, cloud cover, morning and evening relative humidity, wind speed and direction and also on the day in case of extreme weather events & weather warning. KVKs of Punjab were able to receive weather forecast daily for their districts, KVKs of Jammu and Himachal Pradesh received weather forecast on bi-weekly basis.

In order to prepare the agro-advisory bulletins, first the weather forecast is circulated among the various subject matter specialists of the Krishi Vigyan Kendra's (KVK's) and their recommendations are collected. Based on the suggestions received by the concerned scientist of the agromet advisory committee and monthly farm operations & package and practices of the particular location, agro-advisory bulletins are prepared and finalized. After finalizing, these bulletins/weather forecasts are sent to the farmers of the zone through mass media and various extension agencies *i.e.* State Agricultural Department of the zone, mKisan portal, Whatsapp groups, E-mail, Mobile text, Facebook, Farmer Awareness Programme, Personal contact etc.

**Table 2: Weather related advisories in different KVK of ATARI Zone-I**

<b>District</b>	<b>Block</b>	<b>Forecast received</b>	<b>AAS Bulletins prepared</b>	<b>mKisan SMS</b>	<b>Farmers Benefitted</b>	<b>Publications</b>
Ropar	5	144	23	5	4520	0
Jalandhar	11	181	60	100	9636	1
Ferozpur	6	160	32	15	6000	0
Moga	5	159	23	9	4042	0
Barnala	3	83	18	4	6032	1
Chamba	7	0	0	0	0	0
Bilaspur	4	48	0	81	150	0
Mandi	10	0	0	11	79920	0
Sirmaur	6	14	0	0	0	0
Baramulla	26	52	258	10	5000	8
Kathua	1	104	0	0	0	0
Kupwara	1	0	0	0	0	0
Reasi	6	40	30	140	1000	0
Almora	1	2	0	0	0	0
Nainital	8	14	0	0	0	0
Pithouragarh	8	0	0	0	0	0
<b>Total</b>	108	1001	444	375	116300	10

The mobile applications based Agromet advisory services for farmers were also popularized like Meghdoot app and PAU Kisan app among the farmers. Approximate 375 text SMS were sent through mKisan Portal covering all the agriculture sectors like Vegetable crops, Fruit crops, Cereal/cash crops (*Rabi* and *Kharif*), Animal Husbandry and Poultry farming etc in the ATARI Zone-I of Ludhiana and nearly 111300 farmers were benefitted in the year.

# Agro Advisory Bulletins prepared by KVKs



**Gramin Krishi Mausam Sewa**  
Experimental Block Level Agromet Advisory Bulletin  
(A Joint Initiative of IMD & ICAR.)



**Agromet Advisory Bulletin**

Date : 03-03-2020

Weather Forecast of BARNALA Block in BARNALA(Punjab) Issued On :2020-03-03(Valid Till 08:30 IST of the next 5 days)

Date (y-m-d)	Rainfall (mm)	Tmax (°C)	Tmin (°C)	RH I (%)	RH II (%)	Wind Speed (kmph)	Wind Direction (Degree)	cloud cover (Octa)
2020-03-04	0.0	25.5	11.9	83	30	7.0	68	0
2020-03-05	6.3	26.5	12.2	90	27	15.0	101	6
2020-03-06	11.7	23.1	12.5	89	47	21.0	113	7
2020-03-07	27.7	20.4	10.6	96	52	20.0	110	8
2020-03-08	2.1	15.5	8.1	92	76	11.0	110	1

**Weather Summary/Alert:**  
Weather likely to be dry for next 24 hours at most places, light rainfall on 4th March at isolated places and moderate rainfall, hailstorms and strong surface winds prevailed from 5th to 7th March at most places.  
ਅਗਲੇ 24 ਘੰਟਿਆਂ ਤੱਕ ਬਹੁਤੀਆਂ ਥਾਵਾਂ ਤੇ ਮੌਸਮ ਖੁਸ਼ਕ ਰਹਿਣ ਦਾ ਅਨੁਮਾਨ ਹੈ, ਉਸ ਤੋਂ ਬਾਅਦ 4 ਮਾਰਚ ਨੂੰ ਕਿਤੇ ਕਿਤੇ ਹਲਕਾ ਮੀਂਹ ਅਤੇ 5 ਤੋਂ 7 ਮਾਰਚ ਦੌਰਾਨ ਬਹੁਤੀਆਂ ਥਾਵਾਂ ਤੇ ਮੀਂਹ, ਗੜ੍ਹੇ ਅਤੇ ਤੇਜ਼ ਹਵਾਵਾਂ ਚੱਲਣ ਦੀ ਵੀ ਸੰਭਾਵਨਾ ਹੈ।

**General Advisory:**  
Due to rain and strong winds in upcoming days, farmers are advised neither to irrigate nor to spray during windy days. Farmers are advised to regularly monitor yellow rust and aphid in wheat crop after spell of rainfall.  
ਆਉਣ ਵਾਲੇ ਦਿਨਾਂ ਵਿੱਚ ਮੀਂਹ ਪੈਣ ਅਤੇ ਤੇਜ਼ ਹਵਾਵਾਂ ਚੱਲਣ ਦੀ ਸੰਭਾਵਨਾ ਹੋਣ ਕਰਕੇ, ਕਿਸਾਨ ਨੂੰ ਸਲਾਹ ਦਿੱਤੀ ਜਾਂਦੀ ਹੈ ਕਿ ਉਹ ਫਸਲਾਂ ਦੀ ਸਿੰਚਾਈ ਨਾ ਕਰਨ ਅਤੇ ਹਵਾ ਦੇ ਦਿਨਾਂ ਦੌਰਾਨ ਸਪਰੇਅ ਨਾ ਕਰਨ। ਕਿਸਾਨਾਂ ਨੂੰ ਸਲਾਹ ਦਿੱਤੀ ਜਾਂਦੀ ਹੈ ਕਿ ਉਹ ਮੀਂਹ ਤੋਂ ਬਾਅਦ ਵਾਲੇ ਦਿਨਾਂ ਵਿੱਚ ਕਣਕ ਦੀ ਪੀਲੀ ਕੁੰਗੀ ਅਤੇ ਚੋਪੇ ਦਾ ਲਗਾਤਾਰ ਸਰਵੇਖਣ ਕਰਦੇ ਰਹਿਣ।



**Gramin Krishi Mausam Sewa**  
Experimental Block Level Agromet Advisory Bulletin  
(A Joint Initiative of IMD & ICAR.)



**Agromet Advisory Bulletin**

Date : 27-03-2020

Weather Forecast of MOGA-I Block in MOGA(Punjab) Issued On :2020-03-27(Valid Till 08:30 IST of the next 5 days)

Date (y-m-d)	Rainfall (mm)	Tmax (°C)	Tmin (°C)	RH I (%)	RH II (%)	Wind Speed (kmph)	Wind Direction (Degree)	cloud cover (Octa)
2020-03-28	28.0	20.3	12.3	97	73	16.0	153	4
2020-03-29	0.0	24.6	13.5	78	36	9.0	351	1
2020-03-30	0.0	25.6	12.6	61	25	11.0	339	1
2020-03-31	0.0	25.6	14.6	46	23	11.0	339	7
2020-04-01	1.2	25.5	15.4	56	30	16.0	23	6

**Weather Summary/Alert:**  
Light to moderate rain on 28th March and dry weather likely to be dry from 29th to 30th March.  
28 ਮਾਰਚ ਨੂੰ ਕੁਝ ਥਾਵਾਂ ਤੇ ਹਲਕੀ ਤੋਂ ਦਰਮਿਆਨੀ ਬਾਰਸ਼ ਹੋਣ ਦੀ ਸੰਭਾਵਨਾ ਹੈ। 29 ਅਤੇ 30 ਮਾਰਚ ਨੂੰ ਮੌਸਮ ਖੁਸ਼ਕ ਰਹਿਣ ਦੀ ਸੰਭਾਵਨਾ ਹੈ।

**General Advisory:**  
Light to moderate rain on 28th March and dry weather likely to be dry from 29th to 30th March. Farmers are advised to regularly monitor aphid attack in wheat crop and white rust in raya crop.  
28 ਮਾਰਚ ਨੂੰ ਕੁਝ ਥਾਵਾਂ ਤੇ ਹਲਕੀ ਤੋਂ ਦਰਮਿਆਨੀ ਬਾਰਸ਼ ਹੋਣ ਦੀ ਸੰਭਾਵਨਾ ਹੈ। 29 ਅਤੇ 30 ਮਾਰਚ ਨੂੰ ਮੌਸਮ ਖੁਸ਼ਕ ਰਹਿਣ ਦੀ ਸੰਭਾਵਨਾ ਹੈ। ਕਿਸਾਨਾਂ ਨੂੰ ਸਲਾਹ ਦਿੱਤੀ ਜਾਂਦੀ ਹੈ ਕਿ ਉਹ ਮੀਂਹ ਤੋਂ ਬਾਅਦ ਵਾਲੇ ਦਿਨਾਂ ਵਿੱਚ ਕਣਕ ਤੇ ਚੋਪੇ ਅਤੇ ਰਾਇਆ ਦੀਆਂ ਫ਼ਲੀਆਂ ਤੇ ਚਿੱਟੀ ਕੁੰਗੀ ਦਾ ਲਗਾਤਾਰ ਸਰਵੇਖਣ ਕਰਦੇ ਰਹਿਣ।



**Krishi Vigyan Kendra, Nurmahal, Jalandhar**  
**Gramin Krishi Mausam Sewa**  
Experimental Block Level Agromet Advisory Bulletin  
(A Joint Initiative of IMD & ICAR.)



**Agromet Advisory Bulletin**

Date : 20-03-2020

Weather Forecast of NURMAHAL Block in JALANDHAR(Punjab) Issued On :2020-03-20(Valid Till 08:30 IST of the next 5 days)

Date (y-m-d)	Rainfall (mm)	Tmax (°C)	Tmin (°C)	RH I (%)	RH II (%)	Wind Speed (kmph)	Wind Direction (Degree)	cloud cover (Octa)
2020-03-21	0.0	28.7	16.8	42	26	10.0	54	5
2020-03-22	0.3	27.4	14.4	49	32	9.0	18	3
2020-03-23	0.0	28.9	13.9	55	27	9.0	11	2
2020-03-24	1.0	27.8	14.8	72	22	11.0	349	8
2020-03-25	4.1	27.5	15.2	81	36	8.0	338	7

**Weather Summary/Alert:**  
Weather remained dry during past week. Thunderstorm accompanied with lightening likely at isolated places on 20th, 21st, 23rd & 24th in the state.  
ਪਿਛਲੇ ਹਫ਼ਤੇ ਮੌਸਮ ਖੁਸ਼ਕ ਰਿਹਾ। 20, 21, 23 ਅਤੇ 24 ਮਾਰਚ ਨੂੰ ਗਰਜ-ਚਮਕ ਨਾਲ ਬਾਰਿਸ਼ ਹੋਣ ਦੀ ਸੰਭਾਵਨਾ ਹੈ।

**General Advisory:**  
Light to moderate rain likely at isolated places on 20th & 21st, weather likely to be dry on 22nd; light to moderate rain likely at isolated places on 23rd and at a few places thereafter in the state.  
20 ਅਤੇ 21 ਮਾਰਚ ਨੂੰ ਕਿਤੇ-ਕਿਤੇ ਹਲਕੀ ਤੋਂ ਦਰਮਿਆਨੀ ਬਾਰਿਸ਼ ਹੋਣ ਅਤੇ 22 ਮਾਰਚ ਨੂੰ ਮੌਸਮ ਖੁਸ਼ਕ ਰਹਿਣ ਦੀ ਸੰਭਾਵਨਾ ਹੈ। 23 ਮਾਰਚ ਨੂੰ ਫਿਰ ਕਿਤੇ-ਕਿਤੇ ਹਲਕੀ ਤੋਂ ਦਰਮਿਆਨੀ ਬਾਰਿਸ਼ ਹੋਣ ਦਾ ਅਨੁਮਾਨ ਹੈ।

**SMS Advisory:**  
Light to moderate rainfall likely at isolated places on 20th, 21st, 23rd & 24th in the state. Farmers are advised to do farm operations according to weather conditions.  
20, 21 ਅਤੇ 23 ਮਾਰਚ ਨੂੰ ਫਿਰ ਕਿਤੇ-ਕਿਤੇ ਹਲਕੀ ਤੋਂ ਦਰਮਿਆਨੀ ਬਾਰਿਸ਼ ਹੋਣ ਦਾ ਅਨੁਮਾਨ ਹੈ। ਕਿਸਾਨ ਵੀਰਾਂ ਨੂੰ ਸਲਾਹ ਦਿੱਤੀ ਜਾਂਦੀ ਹੈ ਕਿ ਖੇਤੀ ਖੇਤ ਮੌਸਮ ਨੂੰ ਧਿਆਨ ਵਿੱਚ ਰੱਖਦੇ ਹੋਏ ਕਰੇ।



**Gramin Krishi Mausam Sewa**  
Experimental Block Level Agromet Advisory Bulletin  
(A Joint Initiative of IMD & ICAR.)



**Agromet Advisory Bulletin**

Date : 07-02-2020

Weather Forecast of RUPNAGAR Block in RUPNAGAR(Punjab) Issued On :2020-02-07(Valid Till 08:30 IST of the next 5 days)

Date (y-m-d)	Rainfall (mm)	Tmax (°C)	Tmin (°C)	RH I (%)	RH II (%)	Wind Speed (kmph)	Wind Direction (Degree)	cloud cover (Octa)
2020-02-08	0.0	16.7	4.1	70	42	7.0	360	0
2020-02-09	0.0	17.0	4.3	70	35	6.0	19	0
2020-02-10	0.0	17.7	4.6	72	42	6.0	328	0
2020-02-11	0.0	17.9	5.8	77	47	7.0	315	2
2020-02-12	0.0	18.8	7.2	78	48	8.0	328	4

**Weather Summary/Alert:**  
WEATHER FORECAST: Weather likely to be dry during the period in the state. SPECIAL WARNING: 1). Dense fog likely at isolated places on 07th & 08th in the state. 2). Cold wave/ Ground frost conditions likely at isolated places on 07th & 08th in the state.  
ਮੌਸਮ ਭੌਂਖਿਥਾਣੀ: ਇਸ ਸਮੇਂ ਰਾਜ ਵਿੱਚ ਮੌਸਮ ਖੁਸ਼ਕ ਰਹਿਣ ਦੀ ਸੰਭਾਵਨਾ ਹੈ। ਚੇਤਾਵਨੀ: 1). ਮਿਤੀ 07 ਅਤੇ 08 ਨੂੰ ਰਾਜ ਵਿੱਚ ਭੱਠ ਕੁ ਥਾਵਾਂ ਤੇ ਸੰਘਣੀ ਝੱਲ ਪੈਣ ਦੀ ਸੰਭਾਵਨਾ ਹੈ। 2). ਮਿਤੀ 07 ਅਤੇ 08 ਨੂੰ ਰਾਜ ਵਿੱਚ ਕਿਤੇ-ਕਿਤੇ ਸੀਤ ਲਹਿਰ ਚੱਲਣ ਜਾਂ ਕੋਰਾ ਪੈਣ ਦੀ ਸੰਭਾਵਨਾ ਹੈ।

**General Advisory:**  
Due to possibility of dry weather condition in next 5 days, farmers are advised to complete the operations of insecticides / herbicides spraying and fertilizer application in crops. Spring season crops can be sown in this week. For protection of vegetable crops (Chilli, Tomato and Brinjal) and its nursery from cold conditions, covering with sarkanda/ polythene sheet should be done. Protect the livestock from cold conditions.  
ਅਗਲੇ ਪੰਜ ਦਿਨਾਂ ਵਿੱਚ ਮੌਸਮ ਖੁਸ਼ਕ ਰਹਿਣ ਦੇ ਅਨੁਮਾਨ ਕਾਰਨ, ਕਿਸਾਨਾਂ ਨੂੰ ਫਸਲਾਂ ਵਿੱਚ ਕੀਟਨਾਸ਼ਕਾਂ / ਨਦੀਨਨਾਸ਼ਕਾਂ ਦਾ ਛਿੜਕਾਅ ਅਤੇ ਖਾਦਾਂ ਦੀ ਵਰਤੋਂ ਦਾ ਕੰਮ ਪੂਰਾ ਕਰਨ ਦੀ ਸਲਾਹ ਦਿੱਤੀ ਜਾਂਦੀ ਹੈ। ਬਸੰਤ ਰੁੱਤ ਦੀਆਂ ਫਸਲਾਂ ਦੀ ਬਿਜਾਈ ਇਸ ਹਫ਼ਤੇ ਵਿੱਚ ਕੀਤੀ ਜਾ ਸਕਦੀ ਹੈ। ਸਬਜ਼ੀਆਂ ਦੀਆਂ ਫਸਲਾਂ (ਮਿਰਚ, ਟਮਾਟਰ ਅਤੇ ਬੈਂਗਣ) ਅਤੇ ਸਬਜ਼ੀਆਂ ਦੀ ਨਰਸਰੀ ਨੂੰ ਸਰਦੀ ਤੋਂ ਬਚਾਉਣ ਲਈ, ਸਰਕਾਂਡਾ / ਪੋਲੀਥੀਨ ਸ਼ੀਟ ਨਾਲ ਢਕਣਾ ਚਾਹੀਦਾ ਹੈ। ਪਸ਼ੂਆਂ ਨੂੰ ਸਰਦੀ ਤੋਂ ਬਚਾਓ।

## Advisories sent through mKisan portal (in regional language)

Total No of Farmer :- 5193		Advisory Date :-11/13/2019 4:00:11 PM	
15	Advisory Type :1 Level of Advisory: Advisory sent in sector: State: District: Block:		
Hindi			
English			
Regional	ਅਗਲੇ 72 ਘੰਟਿਆਂ ਵਿਚ ਕਿਤੇ ਕਿਤੇ ਭਿੰਟੇ ਪੈਣ ਦੀ ਸੰਭਾਵਨਾ ਹੈ ਅਤੇ ਅਧੁਨ ਵਾਲੇ 48 ਘੰਟਿਆਂ ਵਿੱਚ ਸ਼ਾਂਤੀ ਹੁੰਦੇ ਪੈ ਸਕਦੇ ਹੋ		
Roman Script			

Total No of Farmer :- 6032		Advisory Date :-2/25/2020 11:12:40 AM	
9	Advisory Type :1 Level of Advisory: Advisory sent in sector: State: District: Block:		
Hindi			
English			
Regional	ਅਗਲੇ ਦੋ ਦਿਨਾਂ ਦੌਰਾਨ ਔਰ ਪੈਣ ਅਤੇ ਤੇਜ਼ ਹਵਾਵਾਂ ਚੱਲਣ ਕਰਕੇ, ਕਿਸਾਨ ਨੂੰ ਸ਼ਾਮਲ ਇੰਤਜ਼ਾਮੀ ਚੁੱਕੇ ਹੋਏ ਖੇਤ ਵਿਚ ਦਿਨਾਂ ਵਿੱਚ ਫਸਲਾਂ ਦੀ ਸਿੰਗਲੀ ਅਤੇ ਸਪਰੇਡ ਨਾ ਕਰਨ। ਭੰਗਾਰਾ ਨੂੰ ਠੰਡ ਤੋਂ ਬਚਾਉਣ ਵਾਲੀ ਢੱਕਾ ਅਦਰ ਹੀ ਰੱਖਿਆ ਜਾਵੇ। ਡਾ. ਪ੍ਰਿਠਵੀ ਸਿੰਘ ਤਰਖ ਅਭਿਗਟ ਡਾਇਰੈਕਟਰ ਕਿਸੇ ਵਿਗਿਆਨ ਕੇਂਦਰ, ਹੁੰਡਵਾਲਿਆ		
Roman Script			

Total No of Farmer :- 4182		Advisory Date :-2/19/2020 11:13:45 AM	
18	Advisory Type :1 Level of Advisory: Advisory sent in sector: State: District: Block:		
Hindi			
English			
Regional	ਮੌਸਮ ਦੀ ਭਵਿੱਖਵਾਣੀ ਅਤੇ ਫਸਲਾਂ ਵਿਚ ਕਰਨ ਵਾਲੇ ਲੋੜੀਂਦੇ ਕਾਰਜਾਂ ਦੀ ਜਾਣਕਾਰੀ ਲੈਣ ਲਈ ਹੇਠਾਂ ਦਿੱਤੇ ਲਿੰਕ ਤੋਂ ਮੋਬਾਈਲ ਐਪ ਇੰਸਟਾਲ ਕਰੋ <a href="https://play.google.com/store/apps/details?id=com.aas.meghdoot&amp;hl=en">https://play.google.com/store/apps/details?id=com.aas.meghdoot&amp;hl=en</a>		
Roman Script			

### 5. WEATHER BASED FARMER AWARENESS PROGRAMMES

Farmers were not well aware about weather issues concerning to agriculture production and initiative taken jointly by IMD and ICAR to provide biweekly weather information to farmers so they can utilize this forecast in their agricultural operations and prevent losses due to weather variability and extreme weather events. During this year, Scientist’s from different KVKs of Zone-I conducted farmer awareness programme regarding rapid changing of climate and problems faced by farmers in agriculture due to weather adversity and also suggested contingency planning to reduce the effect of adverse weather (Table 3). They urged the farmers

to keep in touch with KVK's to utilize the weather forecast in their agricultural operation and also discussed about Meghdoot App and encouraged the farmer to install this App for getting weather forecast on their mobile phones.

Instead of crops, they discussed about ill effect of harsh weather conditions on livestock production & reproduction and also their management by adopting the accurate weather forecast to minimize the losses caused by abrupt change in weather conditions. Although the direct benefits from these weather forecasts are difficult to depict exactly in terms of money saved but keeping in view the accuracy of weather forecasts, a single accurate daily or weekly forecast during a bad weather is capable of saving millions of rupees for the state. In this year, total 40 farmers awareness programme were organized under Zone-I in which 2128 farmers participated.

**Table 3: Farmer Awareness Programme conducted by KVK's**

Sr. No.	Name of the KVK	2018-19			2019-20		
		Venue of FAP	No. of FAP	No. of farmers	Venue of FAP	No. of FAP	No. of farmers
1.	Sirmaur	Ajouli, Thakurdwara	2	100	Ajouli, Thakurdwara, Mahhetar	3	130
2.	Mandi	Palahuta, Dodhwan Pauda Kothi, Paunta, Dhamasan	5	427	Chauntra, Sundernagar	3	150
3.	Ropar	Krishi Vigyan Kendra, Ropar	2	150	Mahalan, Parhi and Ballawal Saunkhari	3	178
4.	Jalandhar	KVK Jalandhar, Sarih, Bagga, Batura, Bhadma, Kara Ram Singh, KVK Jalandhar	7	304	KVK Jalandhar, Mehsampur, Parjia Kalan, PAU Ludhiana	8	275
5.	Ferozpur	village Jhoke Hari Har, KVK Ferozepur	2	200	KVK Ferozepur	1	140
6.	Moga	KVK, Moga	1	104	Charik, Chuhar Chak, Ajitwal, Nathuke, Jhandiana Sharki and Smalsar	6	634
7.	Barnala	KVK, Barnala	1	43	Dhaura, Ghunas, Farvahi	3	80
8.	Bilaspur	-	-	-	Jhandutta, Sadar, Ghumarwin, Nainadevi	6	300
9.	Reasi	-	-	-	Bharakh, Talwara, Sirah, Nomain, Patta, Grammore, Agharbalian	7	241

10.	Baramulla	KVK, Baramulla	-	-	Kunzer, Sopore	2	158
<b>Grand Total</b>			<b>20</b>	<b>1328</b>		<b>42</b>	<b>2286</b>

## 6. EXTENSION ACTIVITIES

- Glimpses of farmers awareness programme on weather based agro-advisory



Barnala



Ferozepur



Reasi



Sirmaur



Bilaspur



Mandi



• **Extension Literature Developed**

During the farmer's awareness programmes and Kisan Mela's, farmers were aware about ill effects of weather variability on livestock and crop production and also suggested contingency planning to reduce the effect of adverse weather through extension literature. To provide the weather based advisories to each and every farmer in block, *Meghdoot* application was promoted.

ਬਾਰਾਂ ਦੀ ਮਾੜਾ ਅਤੇ ਫੁਲਾਹਾ : ਜਦਕਿ ਪਰਿਵਰਤਨ ਅਸਿੱਧੇ ਤੌਰ 'ਤੇ ਹੀ ਵਰ੍ਹੇ ਦੀ ਉਮੀਦਗਤ ਅਤੇ ਫੁਲਾਹਾ ਨੂੰ ਪ੍ਰਭਾਵਿਤ ਕਰਦਾ ਹੈ। ਵਰ੍ਹੇ ਮੌਸਮ ਤੋਂ ਵੱਖ ਹੋਣ ਦੇ ਨਾਲ ਹੋਰ ਵਰ੍ਹੇ ਦੀ ਪੇਸ਼ਗਿਰੀ ਤੋਂ ਵੀ ਵੱਖਰੇ ਅਸਰ ਪੈਂਦੇ ਹਨ। ਇਸ ਨਾਲ ਮਿਸਾਲ ਦੇਣ ਵਾਲੇ ਵਰ੍ਹੇ ਦੀ ਫੁਲਾਹਾ ਤੋਂ ਵੀ ਅਸਰ ਪੈਂਦਾ ਹੈ।

ਮੌਸਮੀ ਬਦਲਾਅ ਅਤੇ ਪਸ਼ੂ ਉਤਪਾਦਨ

ਡਾ. ਪ੍ਰਵਿਰਾਣ ਸਿੰਘ ਭੱਠਾਂ  
ਡਿਪਟੀ ਡਾਇਰੈਕਟਰ

ਜਗਜੀਵਨ ਸਿੰਘ  
(ਮੌਸਮ ਵਿਭਾਗ)

ਕ੍ਰਿਸ਼ੀ ਵਿਗਿਆਨ ਕੇਂਦਰ,  
ਕੁਨ੍ਹੂ ਅੰਬ ਦੇਵ ਵੈਟਰਨਰੀ ਅਤੇ ਪਸ਼ੂ ਚਿਕਿਤਸਾ ਯੂਨੀਵਰਸਿਟੀ  
ਹੰਡਿਆਇਆ (ਬਰਨਾਲਾ)

ਮੈਗਦੂਟ ਮੌਸਮੀ ਐਪ

- ਇਸ ਨੂੰ ਵਰਤਮਾਨ ਅਤੇ ਫੋਨ ਨਾਲ ਜੋੜਿਆ ਗਿਆ ਹੈ ਤਾਂ ਤੋਂ ਕਿਸਾਨਾਂ ਨੂੰ ਆਪਣੇ ਖੇਤ ਸਥਾਨ ਦੇ ਵਰ੍ਹੇ ਵਿੱਚ ਸਹਾਇਤਾ ਮਿਲ ਸਕੇ।
- ਆਈਟ ਫੋਨਾਂ ਵਿੱਚ ਇਹ ਯੂ ਟਿਊਬ ਨਾਲ ਇੰਸਟਾਲ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।

ਐਪ ਦੇ ਵਿਕਸਾਤਕਾਰ

- ਡਾ. ਆਨੰਦ ਸਿੰਘ (ਕੋਲੋਕਾਲ ਸਹਾਇਕ)
- ਡਾ. ਕੁਸ਼ਵੰਤ ਸਿੰਘ ਐਓਐ (ਮੌਸਮੀ ਵਿਭਾਗ)
- ਡਾ. ਬਲਜੀਤ ਕੌਰ

ਕ੍ਰਿਸ਼ੀ ਵਿਗਿਆਨ ਕੇਂਦਰ  
ਕੁਨ੍ਹੂ ਅੰਬ ਦੇਵ  
ਪੰਜਾਬ ਐਗਰੀਕਲਚਰਲ ਯੂਨੀਵਰਸਿਟੀ, ਲੁਧਿਆਣਾ

Damini App

Aasmani Roshni Se Bachne Ka Tarika

ਦਾਮਿਨੀ ਐਪ

ਬੱਚਣ ਲਈ ਆਸਮੀ ਰੋਸ਼ਨੀ ਤੋਂ ਬਚਣ ਦਾ ਟਰਿਕਾ

ਸੁਰੱਖਿਆ ਉਪਾਅ

1. Stay away from open areas.
2. Should stay away from electrical products/ conductors.
3. Water pipes also generate electricity, if injured, immediately take help of medical services.
4. Don't lay down on earth surface with thunderstorm/ lightning.
5. Should stay in protected vehicles (window closed).

ਕੁਸ਼ੀ ਵਿਗਿਆਨ ਕੇਂਦਰ ਬਾਰਾਮੁਲਾ  
KRISHI VIGYAN KENDRA BARAMULLA  
ICAR-Central Institute of Temperate Horticulture  
Kunzer-193404, Distt. Baramulla (J&K)

Gramin Krishi Mausam Seva  
Janak Bane, Samradh Bane

ਗਰਾਮੀਨ ਕ੍ਰਿਸ਼ੀ ਮੌਸਮ ਸੇਵਾ  
ਜਨਕ ਬਨੇ, ਸਮਰਾਧ ਬਨੇ

ਨੋਟ: ਫੋਨ ਨੂੰ ਵਰਤਮਾਨ ਅਤੇ ਫੋਨ ਨਾਲ ਜੋੜਿਆ ਗਿਆ ਹੈ ਤਾਂ ਤੋਂ ਕਿਸਾਨਾਂ ਨੂੰ ਆਪਣੇ ਖੇਤ ਸਥਾਨ ਦੇ ਵਰ੍ਹੇ ਵਿੱਚ ਸਹਾਇਤਾ ਮਿਲ ਸਕੇ।

ਸੁਰੱਖਿਆ ਉਪਾਅ

1. Stay away from open areas.
2. Should stay away from electrical products/ conductors.
3. Water pipes also generate electricity, if injured, immediately take help of medical services.
4. Don't lay down on earth surface with thunderstorm/ lightning.
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ਕੁਸ਼ੀ ਵਿਗਿਆਨ ਕੇਂਦਰ ਬਾਰਾਮੁਲਾ  
KRISHI VIGYAN KENDRA BARAMULLA  
ICAR-Central Institute of Temperate Horticulture  
Kunzer-193404, Distt. Baramulla (J&K)

**Table 4: Average weather conditions for 2019-20 at different KVKs**

Name of State	District	Temperature (°C)		Rainfall (mm)
		Maximum	Minimum	
<b>Punjab</b>	Ropar	40	6	301.4
	Jalandhar	39.6	6.7	698.4
	Ferozpur	39	6	356.4
	Moga	40	5	262.7
	Barnala	40	6	330.4
<b>Himachal Pradesh</b>	Chamba	35	5	1012.4
	Bilaspur	31.5	12.6	1047
	Mandi	40	6	1250.3
	Sirmaur	32	6	1421.4
<b>Jammu &amp; Kashmir</b>	Baramulla	30	-4	1274
	Kathua	41	3	1156.5
<b>Jammu &amp; Kashmir</b>	Reasi	39	6	1941.9
	Kupwara	30	-4	1052.4
<b>Uttarakhand</b>	Almora	36	3	1054
	Nainital	28	1.1	1831.2
	Pithoragarh	28.3	-2.7	1881.5

## **7. FINANCIAL OUTCOME**

Indian Metrological Department released funds for the various activities including the recruitment of Subject Matter Specialist and Agromet Observer during the year 2018-19. Each KVK was provided with one SMS (Agromet and one AO) for proper implementation of the project. The funds were provided under Capital head and General Head only. Funds were released for purchase of Computer and related accessories, pay of the staff under the project, travelling allowance for the staff, Farmer awareness programmes and contingency. (Annexure-I)

**Table 5: Details of expenditure for KVKs of Zone-I (2018-19)**

Sr. No.	University/Institute	Name of KVK	2018-19 (in Rs.)		
			Released	Expenditure	Balance
1	SKAUST, Srinagar	Kupwara	480000	254660	225340
2	CITH, Srinagar	Baramulla	480000	20267	459733
3	SKAUST, Jammu	Kathua	480000	125299	354701
		Reasi	480000	161423	318577
4	Dr. YSPUH&F, Solan	Chamba	480000	0	480000
5	CSKHPKV, Palampur	Bilaspur	480000	194475	285525
		Sirmaur	480000	200503	279497
		Mandi	480000	196622	283378
6	GBPUA&T, Pantnagar	Almora	480000	156119	323881
		Nainital	480000	146387	333613
		Pithoragarh	480000	158410	321590
7	PAU, Ludhiana	Ropar	480000	188924	291076
		Jalandhar	480000	195000	285000
		Ferozepur	480000	204985	275015
		Moga	480000	187388	292612
8	GADVASU, Ludhiana	Barnala	480000	195000	285000
9	ICAR-ATARI, ZONE-I		320000	267529	52471
<b>Grand Total</b>			<b>8000000</b>	<b>2852991</b>	<b>5147009</b>

**Table 6: Details of expenditure for ICAR-ATARI, Ludhiana (2018-19)**

Heads	Sanctioned	Expenditure	Balance
Capital head	165000	158239	6761
Contingency head	155000	109290	45710
<b>Total</b>	<b>320000</b>	<b>267529</b>	<b>52471</b>

During the year IMD revalidated the balance funds of the year 2018-19 remaining under the project so that the project runs smoothly in the KVKs across the entire country. An amount of Rs. 5148631 was revalidated and an amount of Rs.4325455 was released during the year by IMD, New Delhi for 12 KVKs of Zone-I and an expenditure of Rs.2964809 was done by the KVKs for implementation of the project. (Annexure-II)

**Table 7: Details of expenditure for KVKs of Zone-I (2019-20)**

Sr. No .	University/ Institute	Name of KVK	2019-20 (in Rs.)				
			Opening balance	Released	Total funds released	Expenditure	Balance
1	SKAUST, Srinagar	Kupwara	225340	247000	472340	74191	398149
2	CITH, Srinagar	Baramulla	459733	0	459733	195141	264592
3	SKAUST, Jammu	Kathua	354701	0	354701	0	354701
		Reasi	318577	0	318577	0	318577
4	Dr. YSPUH&F, Solan	Chamba	480000	0	480000	194944	285056
5	CSKHPKV, Palampur	Bilaspur	285525	247000	532525	289740	242785
		Sirmaur	279497	247000	526497	91053	435444
		Mandi	285000	247000	532000	309215	221163
6	GBPUA&T, Pantnagar	Almora	323881	247000	570881	37241	533640
		Nainital	333613	247000	580613	0	580613
		Pithoragarh	321590	247000	568590	0	568590
7	PAU, Ludhiana	Ropar	291076	247000	538076	251552	286524
		Jalandhar	285000	247000	532000	467172	64828
		Ferozepur	275015	247000	522015	374650	147365
		Moga	292612	247000	539612	207811	331801
8	GADVASU, Ludhiana	Barnala	285000	247000	532000	309933	222067
9	ICAR-ATARI, ZONE-I		52471	1361455	1413926	174407	1239519
<b>Grand Total</b>			<b>5148631</b>	<b>4325455</b>	<b>9474086</b>	<b>2977050</b>	<b>6495414</b>

During the year purchased 1 computer and 2 printers under capital head under the project for the institute.

**Table 8: Details of expenditure for ICAR-ATARI, Ludhiana (2019-20)**

Heads	Sanctioned	Expenditure	Balance
Capital head	156761	98418	58343
Contingency head	97165	75988	21177
<b>Total</b>	<b>253926</b>	<b>174406</b>	<b>79520</b>

## Annexure-I

### Fund allocation for setting up District Agro-Met Units (DAMUs) at 200 KVKs

S. No.	Name of ATARIs	No. of KVKs	Fund to be allocated to KVKs ( in Lakh)	Fund to be allocated to ATARIs (In Lakh)	Total fund to be released to ATARIs (In Lakh)
1.	Zone-I, ATARI, Ludhiana	16	76.80	3.20	80.00
2.	Zone-II, ATARI, Jodhpur	16	76.80	3.20	80.00
3.	Zone-III, ATARI, KANPUR	17	81.60	3.40	85.00
4.	Zone-IV, ATARI-Patna	31	148.80	6.20	155.00
5.	Zone-V, ATARI-Kolkata	16	76.80	3.20	80.00
6.	Zone-VI, ATARI-Guwahati	13	62.40	2.60	65.00
7.	Zone-VII, ATARI-Barapani	07	33.60	1.40	35.00
8.	Zone-VIII, ATARI-Pune	21	100.80	4.20	105.00
9.	Zone-IX, ATARI-Jabalpur	23	110.40	4.60	115.00
10.	Zone-X, ATARI-Hyderabad	24	115.20	4.80	120.00
11.	Zone-XI, ATARI-Bengaluru	16	76.80	3.20	80.00
<b>TOTAL</b>		<b>200</b>	<b>960.0 Lakhs</b>	<b>40.0 Lakhs</b>	<b>1000.00 Lakhs</b>

भारत सरकार  
भारत मौसम विज्ञान विभाग  
मौसम भवन, लोदी रोड़,  
नई दिल्ली – 110 003



Government of India  
India Meteorological Department  
Mausam Bhavan, Lodi Road,  
New Delhi – 110 003

No. AASD-08/DAMU-Dissemination/2014  
Dated. 05.07.2019

To,  
Dr. A.K. Singh,  
DDG (Agriculture Extension),  
ICAR, Krishi Anusandhan Bhawan-I,  
New Delhi-110012

Subject- Continuation of the Gramin Krishi Mausam Sewa (GKMS) and budget allocation during the financial year 2019-20.

Ref: Letter no./DES/T/KVK/2019/694 dated 03.07.2019 from JNKV, Jabalpur (M.P)

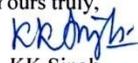
Dear Sir,

In continuation to the letter referred above, it is intimated that GKMS scheme has been approved in the sub scheme under the Umbrella Scheme entitled "Atmospheric & Climate Research- Modelling Observing System & Services (ACROSS)" of MoES during FY 2017-18 to 2019-20.

Hence, the GKMS is continued for the FY 2019-20 and budget has already been allocated in FY 2019-20 for setting up DAMUs at KVKs. The budget released in FY 2018-19 to ICAR, if not spent, can be utilized during the current financial year.

Thanking you,

Yours truly,

  
KK Singh  
Scientist-G & Head AASD

Copy to:

1. Dr. Randhir Singh, ADG (AE), ICAR, KAB-I, New Delhi
2. Dr. Rajbeer Singh, Director, ICAR-ATARI, Ludhiana.
3. Dr. S.K. Singh, Director, ICAR-ATARI, CAZRI, campus Jodhpur.
4. Dr. Atar Singh Director, Director, ICAR-ATARI, Kanpur.
5. Dr. Anjani Kumar, Director, ICAR-ATARI, Patna.
6. Dr. S. S Singh, Director, ICAR-ATARI, Kolkata.
7. Dr. A. K Tripathi, Director, ICAR-ATARI, Guwahati.
8. Dr. Bidyut C Deka, Director, ICAR-ATARI, Barapani, Umiam.
9. Dr. Lakhan Singh, Director, ICAR-ATARI, Pune.
10. Dr. Anupam Mishra, Director, ICAR-ATARI, Jabalpur.
11. Dr. Y. G Prasad, Director, ICAR-ATARI,, Hyderabad.
12. Dr. M J Chandre Gowda, Director, ICAR-ATARI, Hebbal, Bengaluru.

Tele: 011-24361710, 9868110771, Email: kksingh2022@gmail.com

386098/2020/AGRIL EXTN.-I



346 भारतीय कृषि अनुसंधान परिषद्  
INDIAN COUNCIL OF AGRICULTURAL RESEARCH  
कृषि अनुसंधान भवन-1, पुसा, नई दिल्ली-110012  
Krishi Anusandhan Bhawan, Pusa, New Delhi - 110 012.

F. No. A.Extn. 16/01/2017-AE-I

Dated 28<sup>th</sup> November, 2019**BILL**

Pay to: all ICAR-ATARIs, for the project **Atmospheric & Climate Research-Modeling Overserving & Services (ACROSS) Scheme (0335)** for setting up **DAMUs** at 200 KVKs (As per O.O.No. A.Extn.16/01/2017-AE-I dated 20/11/2019).

The payment may be made electronically in favour of ICAR-ATARIs (as per details given asunder) amount of **Rs. 9,47,30,379 /-** (Nine Crore Forty Seven lakh Thirty Thousand Three Hundred Seventy Nine Only).

Sl. No	Name of ATARIs	Fund to be released to ATARIs-wise
1.	Zone-IV, ATARI, Patna	1,68,71,837
2.	Zone-XI, ATARI, Bangalore	52,30,198
3.	Zone-IX, ATARI, Jabalpur	90,10,319
4.	Zone-VIII, ATARI, Pune	96,62,337
5.	Zone-V, ATARI-Kolkata	70,97,395
6.	Zone-II, ATARI-Jodhpur	1,03,42,472
7.	Zone-VI, ATARI-Guwahati	1,09,34,790
8.	Zone-VII, ATARI-Barapani	59,90,409
9.	Zone-III, ATARI-Kanpur	72,90,000
10.	Zone-I, ATARI-Ludhiana	11,60,000
11.	Zone-X, ATARI-Hyderabad	1,11,40,622
TOTAL -		9,47,30,379 /-

Passed for **Rs. 9,47,30,379/-** (Nine Crore Forty Seven lakh Thirty Thousand Three Hundred Seventy Nine Only).

(Balraj Singh)  
Under Secretary (AE)

Pay to 11 ATARIs (as detailed above) **Rs. 9,47,30,379/-** (Nine Crore Forty Seven lakh Thirty Thousand Three Hundred Seventy Nine Only).

(Randhir Singh)  
ADG (AE-II)

h)

386098/2020/AGRIL EXTN.-I



भारतीय कृषि अनुसंधान परिषद्  
INDIAN COUNCIL OF AGRICULTURAL RESEARCH  
कृषि अनुसंधान भवन-1, पुसा, नई दिल्ली-110012  
Krishi Anusandhan Bhawan, Pusa, New Delhi - 110 012.

F. No. A.Extn. 16/01/2017-AE-I

Dated 12<sup>th</sup> December, 2019**BILL**

Pay to: all ICAR-ATARIs, for the project **Atmospheric & Climate Research-Modeling Overserving & Services (ACROSS) Scheme (0335)** for setting up DAMUs at remaining 72 KVKs out of 200 KVKs (As per O.O.No. A.Extn.16/01/2017-AE-I dated 11/12/2019).

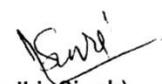
The payment may be made electronically in favour of ICAR-ATARIs (as per details given as under) amount of **Rs. 2,00,00,000/- (Rupees Two Crores only)**.

Name of ATARIs	DAMU Established/Manpower Recruited	Total DAMU Units	DAMUs to be established for the Remaining 72 KVKs	Fund allocation for 72 KVKs in FY 2019-20@2,47,000 (approx)	Allocation for ATARI Office	Net Release for 2019-20 (ATARI-wise)
Patna	18	31	13	3,211,000	2,01,455	34,12,455
Bangalore	8	16	8	19,76,000	2,01,455	21,77,455
Jabalpur	16	23	7	17,29,000	2,01,455	19,30,455
Pune	11	21	10	24,70,000	2,01,455	26,71,455
Kolkata	6	16	10	24,70,000	2,01,455	26,71,455
Jodhpur	13	16	3	7,41,000	2,01,455	9,42,455
Guwahati	11	13	2	4,94,000	2,01,455	6,95,455
Barapani	5	7	2	4,94,000	2,01,455	69,5,455
Kanpur	13	17	4	9,88,000	2,01,455	11,89,455
Ludhiana	4	16	12	29,64,000	2,01,455	31,65,455
Hyderabad	23	24	1	2,47,000	2,01,450	4,48,450
<b>TOTAL</b>	<b>128</b>	<b>200</b>	<b>72</b>	<b>1,77,84,000/-</b>	<b>22,16,000/-</b>	<b>2,00,00,000/-</b>

Passed for **Rs. 2,00,00,000/- (Rupees Two Crores only)**.

  
(Balraj Singh)  
Under Secretary (AE)

Pay to 11 ATARIs (as detailed above) **Rs. 2,00,00,000/- (Rupees Two Crores only)**.

  
(Randhir Singh)  
ADG (AE-II)

**Qualifications of SMS and Agro met**

Indian Council of Agricultural Research  
Krishi Anusandhan Bhawan  
Pusa, New Delhi-110012  
(Division of Agricultural Extension)

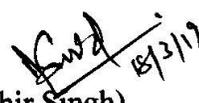
F.No.ADG(AE) -RS /DAMU

Dated 18<sup>th</sup> March, 2019.

**Sub: Selection of SMS (Agrometeorology) in District Agromet Unit (DAMU)  
at KVKs.**

As per the Memorandum of Understanding between ICAR and India Meteorological Department (IMD), the preference has to be given to the candidates possessing Post-Graduate/Ph.D Degree in the Agrometeorology discipline for the selection of SMS (Agrometeorology) across the country. This is reiterated again that the host institutions appointing the SMS (Agrometeorology) in DAMU should adhere to the clause of the MOU while recruiting the SMS (Agrometeorology).

The qualification prescribed for SMS (Agrometeorology) is Post Graduate Degree in Agrometeorology, Meteorology, Agronomy, or Agricultural Physics.

  
(Randhir Singh)  
Asstt. Director General (AE)

**DISTRIBUTION:**

1. Directors of ATARIs.
2. Head, AAS Division, IMD.

भारत सरकार  
भारत मौसम विज्ञान विभाग  
मौसम भवन, लोदी रोड़,  
नई दिल्ली – 110 003



Government of India  
India Meteorological Department  
Mausam Bhavan, Lodi Road,  
New Delhi – 110 003

No. AASD-08/DAMU-Dissemination/2014  
Dated. 26.07.2019

To,  
Dr. A.K. Singh,  
DDG (Agriculture Extension),  
ICAR, Krishi Anusandhan Bhawan-I,  
New Delhi-110012

Subject- Qualification for recruitment of Agromet Observer (AO) at DAMUs located in KVKs under GKMS...reg.

Dear Sir,

You are aware that IMD and ICAR are jointly expanding the network to district level by setting up of District Agro-Met Units (DAMUs) at Krishi Vigyan Kendras (KVKs) in additional 530 districts, under "Gramin Krishi Mausam Sewa (GKMS)" to prepare and disseminate sub-district (Block) level weather forecast based agromet advisory bulletins.

Keeping above in the view, it is to bring to your kind attention that one post for Agromet Observer (AO) has been approved in the scale of Rs. 5200-20200 (GP Rs. 2000/-) with Dearness Allowances (DA) and House Rent Allowances (HRA) as per 6<sup>th</sup> CPC or 7<sup>th</sup> CPC prorata on contractual basis co-terminus with the GKMS at each DAMU in Gramin Krishi Mausam Sewa (GKMS).

It is hereby communicated that the **essential qualification of the Agromet Observer to be recruited at KVKs (DAMUs) will be 10+2 (as per Government norms) in the science stream along with the basic knowledge of computer operations.** It is also required to communicate to the controlling authorities of KVKs that nominee from ICAR and IMD must be included in the selection committee for recruitment of AO at KVKs.

Thanking you,

Yours truly,

KK Singh

Scientist-G & Head AASD

Copy to:

1. Dr. Randhir Singh, ADG (AE), ICAR, KAB-I, New Delhi
2. Dr. Rajbeer Singh, Director, ICAR-ATARI, Ludhiana.
3. Dr. S.K. Singh, Director, ICAR-ATARI, CAZRI, campus Jodhpur.
4. Dr. Atar Singh Director, Director, ICAR-ATARI, Kanpur.
5. Dr. Anjani Kumar, Director, ICAR-ATARI, Patna.
6. Dr. S. S Singh, Director, ICAR-ATARI, Kolkata.
7. Dr. A. K Tripathi, Director, ICAR-ATARI, Guwahati.
8. Dr. Bidyut C Deka, Director, ICAR-ATARI, Barapani, Umiam.
9. Dr. Lakhon Singh, Director, ICAR-ATARI, Pune.
10. Dr. Anupam Mishra, Director, ICAR-ATARI, Jabalpur.
11. Dr. Y. G Prasad, Director, ICAR-ATARI,, Hyderabad.
12. Dr. M J Chandre Gowda, Director, ICAR-ATARI, Hebbal, Bengaluru.

Tele: 011-24361710, 9868110771, Email: kksingh2022@gmail.com

**Recommendations**

**Recommendations of 13<sup>th</sup> ARM on GKMS  
RVSKVV, Gwalior during 18-20 December 2019**

1. Operationalization of block level AAS through AMFUs and DAMUs. Preparation of Standard Operating Procedure (SOP) for various components of Agromet Advisories generation. [Action: IMD and ICAR]
2. Co-ordination among RMCs/MCs, ATARIs, AMFUs, DAMUs and District Agricultural Offices to implement block level AAS. [Action: IMD, ATARIs, SDA, AMFUs, DAMUs]
3. Use of Agromet-DSS for preparation of AAS bulletin by the AMFUs and DAMUs. [Action: AMFUs and DAMUs]
4. AMFUs to act as principal mentors for technical guidance of DAMUs in the zone for implementing block level AAS. [Action: AMFUs and DAMUs]
5. Capacity building for the NOs and TOs / SMS of AMFUs and DAMUs. [Action: IMD, ATARI, SAU, AMFU]
6. Observational Network and data sharing:
  - a. Installation, inspection and maintenance of observatories at AMFUs and DAMUs in the State by RMCs / MCs. [Action: RMCs / MCs]
  - b. Selection of site for Agro-AWS installation at DAMUs on priority basis in coordination with RMCs / MCs. [Action: RMCs / MCs and DAMUs]
  - c. Block level met data as available in the National Data Centre, IMD may be obtained through data portal directly by the AMFUs/DAMUs. IMD will make necessary provisions for obtaining the data free of cost. [Action: IMD, AMFUs and DAMUs]
  - d. Historical and real time crop related data to be collected by the AMFUs and DAMUs from various relevant sources and sharing with IMD for development of crop weather calendar and automation of Agromet advisory generation [Action: AMFUs and DAMUs]

- e. Soil moisture observations based on gravimetric method to be recorded and transmitted by AMFUs and DAMUs. [Action: AMFUs and DAMUs]
7. Dissemination of Agromet Advisories:
- a. Enhancing outreach and dissemination of Agromet advisories to all the farmers using new and effective means of communication. [Action: AMFUs and DAMUs]
  - b. Provision to be made for sending block level Agromet Advisories through SMS using Kisan Portal. [Action: DAC&FW and IMD]
  - c. Popularisation of “Meghdoot” mobile App for outreach of Agromet Advisories. [Action: RMC/MCs, AMFUs and DAMUs]
8. AMFUs and DAMUs to collect and analyse real time feedback from the farmers and other end users of their own districts. [Action: AMFUs and DAMUs]
9. Development of high resolution Agromet products using remote sensing and land based observations. [Action: AMFUs and DAMUs]
10. Mechanism to be developed for review and monitoring of GKMS activities at district level. [Action: IMD and ICAR]

**Detail of Staff under DAMU**

Detail Of Staff Under District-Agro Metrological Unit( DAMU) 2020								
Name of KVKs	Subject Matter Specialist				Agro-Met Observer			
	Name of SMS	Qualification (Discipline)	Email	Mobile No.	Name of AMO	Qualification (Discipline)	Email	Mobile No.
Barnala	Sh. Jagjeewan Singh	M.Sc. (Agricultural Meteorology)	Singhjagjeewan@pau.edu	94654-14982	Sh. Gurpreet Singh	M.Sc. (Chemistry)	gurpreetromana09@gmail.com	97804-89980
Jalandhar	Baljeet Kaur	Ph.D Agrometeorology	bchahal57@gmail.com	9888182718, 8360030851	-	-	-	-
Moga	Dr. Satinder Kaur	M. Sc. (Agro-Met)	Bhullarsati@gmail.com	9417632088	-	-	-	-
Ropar	Jashandeep Singh	M.Sc.(Agricultural Meteorological)	Jashandeep-soccam@pau.edu	9041177170	-	-	-	-
Ferozepur	Dr. Amandeep Kaur	Ph.D in Agrometeorology	-	9463782737	-	-	-	-
Chamba	-	-	-	-	-	-	-	-
Bilaspur	Ms. Dixa Tanotra	M.Sc (Agromet)	dixa.22091994@gmail.com	9805230871	Nikhil Rana	10+2 (Science)	nrana1894@gmail.com	7876535972
Mandi	Dr. Shivani Thakur	Ph.D (Agronomy)	thakur.shivani.aug@gmail.com	8628892222	Anubhav Thakur	BSc. Agriculture	anubhavthakur97@gmail.com	8580529796
Sirmour	Sachin Kumar	M.Sc (Agronomy)	-	-	Deepak Sharma	M.Sc. (Zoology)	Deepakaksharma79@gmail.com	-
Baramulla	Sh. Karan Chhabra	M.Sc. (Agrometeorology)	Karanchhabravk@gmail.com	6006471623	Sh. Tanveer Ahmad Sofi	-	sofitanveer5@gmail.com	7006485754
Kathua	Dr. Ashu Sharma	Ph.D (Agronomy)	ashusudan285@gmail.com	9596849669	Mr. Pankaj Mehra	-	pm1170680@gmail.com.	9149864282
Kupwara	-	-	-	-	-	-	-	-
Reasi	Dr.Lobzang Stanzen	Ph.D.	stanzen2015@gmail.com	9622043401	Ms Preeti Choudhary	-	-	7006384621
Pithouragarh	-	-	-	-	-	-	-	-
Almora	-	-	-	-	-	-	-	-
Nainital	-	-	-	-	-	-	-	-



**GFR 12 – A**  
[(See Rule 238 (1)]

**FORM OF UTILIZATION CERTIFICATE  
FOR AUTONOMOUS BODIES OF THE GRANTEE ORGANIZATION**

GRANT/UTILIZATION CERTIFICATE FOR THE YEAR 2018-19 in respect of  
of recurring/non-recurring  
GRANTS-IN-AID/SALARIES/CREATION OF CAPITAL ASSETS

1. Name of the Scheme.: **District Agro-Met Units**
2. Whether recurring or non-recurring grants- **Recurring/Non Recurring**
3. Grants position at the beginning of the Financial year
  - (i) Cash in Hand/Bank = 0.00
  - (ii) Unadjusted advances = 0.00
  - (iii) Total = 0.00

4. Details of grants received, expenditure incurred and closing balances: (Actuals)

Unspent Balances of Grants received years [figure as at Sl. No. 3 (iii)]	Interest Earned thereon	Interest deposited back to the Government	Grant received during the year			Total Available funds (1+2-3+4)	Expenditure incurred	Closing Balances (5-6)
			Sanction No. (i)	Date (ii)	Amount (iii)			
1	2	3	4			5	6	7
			A.Extn.16/2/2017-AE-I	02.11.2018	8000000	8000000	2851369	5148631

Component wise utilization of grants:

Grant-in-aid-General	Grant-in-aid-Salary	Grant-in-aid-creation of capital assets	Total
2851369	0	0	2851369

Details of grants position at the end of the year

- (i) Cash in Hand/Bank = **5148631.00**
- (ii) Unadjusted Advances = **0.00**
- (iii) Total = **5148631.00**

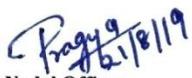


Certified that I have satisfied myself that the conditions on which grants were sanctioned have been duly fulfilled/are being fulfilled and that I have exercised following checks to see that the money has been actually utilized for the purpose for which it was sanctioned:

- (i) The main accounts and other subsidiary accounts and registers (including assets registers) are maintained as prescribed in the relevant Act/Rules/Standing instructions (mention the Act/Rules) and have been duly audited by designated auditors. The figures depicted above tally with the audited figures mentioned in financial statements/accounts.
- (ii) There exist internal controls for safeguarding public funds/assets, watching outcomes and achievements of physical targets against the financial inputs, ensuring quality in asset creation etc. & the periodic evaluation of internal controls is exercised to ensure their effectiveness.
- (iii) To the best of our knowledge and belief, no transactions have been entered that are in violation of relevant Act/Rules/standing instructions and scheme guidelines.
- (iv) The responsibilities among the key functionaries for execution of the scheme have been assigned in clear terms and are not general in nature.
- (v) The benefits were extended to the intended beneficiaries and only such areas/districts were covered where the scheme was intended to operate.
- (vi) The expenditure on various components of the scheme was in the proportions authorized as per the scheme guidelines and terms and conditions of the grants-in-aid.
5. It has been ensured that the physical and financial performance under **District Agro-Met Units** (name of the scheme) has been according to the requirements, as prescribed in the guidelines issued by Govt. of India and the performance/targets achieved statement for the year to which the utilization of the fund resulted in outcomes given at Annexure – I duly enclosed.
- (viii) The utilization of the fund resulted in outcomes given at Annexure – II duly enclosed (to be formulated by the Ministry/Department concerned as per their requirements/specifications.)
- (ix) Details of various schemes executed by the agency through grants-in-aid received from the same Ministry or from other Ministries is enclosed at Annexure –II (to be formulated by the Ministry/Department concerned as per their requirements/specifications).

Date: 21.08.2019

Place: Ludhiana

  
Nodal Officer  
(District Agro-Met Units)

  
Asst. Finance and Account Officer  
Asstt. Finance & Accounts Office  
Indian Council of Agricultural Research  
Agricultural Technology Application Research Institute, Zone-1  
PAU Campus, Ludhiana-141004

  
Director  
21.8.19



**GFR 12 – A**  
[(See Rule 238 (1))]

**FORM OF AUDIT UTILIZATION CERTIFICATE  
FOR AUTONOMOUS BODIES OF THE GRANTEE ORGANIZATION**

AUDIT UTILIZATION CERTIFICATE FOR THE YEAR 2019-20 in respect  
of recurring/non-recurring  
GRANTS-IN-AID/SALARIES/CREATION OF CAPITAL ASSETS

1. Name of the Scheme: DAMU (GKMS)
2. Whether recurring or non-recurring grants-
3. Grants position at the beginning of the Financial year
  - (i) Cash in Hand/Bank = 5147009.00
  - (ii) Unadjusted advances = 0.00
  - (iii) Total = 5147009.00
4. Details of grants received, expenditure incurred and closing balances: (Actual)

Unspent Balances of Grants received years [figure as at Sl. No. 3 (iii)]	Interest Earned thereon	Interest deposited back to the Government	Grant received during the year			Total Available funds (1+2-3+4)	Expenditure incurred	Closing Balances (5-6)	
			Sanction No. (i)	Date (ii)	Amount (iii)				
1	2	3	4			5	6	7	
			F.No.A.Extn.16/01/2017-AE-1	20.11.19	1160000.00	1160000.00	00.00	1160000.00	
5147009.00	0	0	F.No.A.Extn.16/01/2017-AE-1	12.12.19	3165455.00	8312464.00	2977050.00	5335414.00	
<b>Grand Total</b>						<b>4325455.00</b>	<b>9472464.00</b>	<b>2977050.00</b>	<b>6495414.00</b>

Component Wise utilization of grants:

Grant-in-aid-General	Grant-in-aid-Salary	Grant-in-aid-Creation of Capital assets	Total
2977050.00	0	0	2977050.00

Details of grants position at the end of the year  
Cash in Hand/Bank with SAUs/ICAR Inst./ATARI = **6495414.00**  
(i) Unadjusted Advances = **0.00**  
(ii) Total = **6495414.00**



Certified that I have satisfied myself that the conditions on which grants were sanctioned have been duly fulfilled/are being fulfilled and that I have exercised following checks to see that the money has been actually utilized for the purpose for which it was sanctioned:

- (i) The main accounts and other subsidiary accounts and registers (including assets registers) are maintained as prescribed in the relevant Act/Rules/Standing instructions (mention the Act/Rules) and have been duly audited by designated auditors. The figures depicted above tally with the audited figures mentioned in financial statements/accounts.
- (ii) There exist internal controls for safeguarding public funds/assets, watching outcomes and achievements of physical targets against the financial inputs, ensuring quality in asset creation etc. & the periodic evaluation of internal controls is exercised to ensure their effectiveness.
- (iii) To the best of our knowledge and belief, no transactions have been entered that are in violation of relevant Act/Rules/standing instructions and scheme guidelines.
- (iv) The responsibilities among the key functionaries for execution of the scheme have been assigned in clear terms and are not general in nature.
- (v) The benefits were extended to the intended beneficiaries and only such areas/districts were covered where the scheme was intended to operate.
- (vi) The expenditure on various components of the scheme was in the proportions authorized as per the scheme guidelines and terms and conditions of the grants-in-aid.
- (vii) It has been ensured that the physical and financial performance under **DAMU(GKMS)** (name of the scheme has been according to the requirements, as prescribed in the guidelines issued by Govt. of India and the performance/targets achieved statement for the year to which the utilization of the fund resulted in outcomes given at Annexure – I duly enclosed.
- (viii) The utilization of the fund resulted in outcomes given at Annexure – II duly enclosed (to be formulated by the Ministry/Department concerned as per their requirements/specifications.)
- (ix) Details of various schemes executed by the agency through grants-in-aid received from the same Ministry or from other Ministries is enclosed at Annexure –II (to be formulated by the Ministry/Department concerned as per their requirements/specifications).

Date: 26.3.2021  
Place: Ludhiana

*Preeti*  
26/3/2021  
Nodal Officer

*Z. W. Singh*  
20/3/2021  
Asst. Finance and Account Officer  
Assistant Finance & Accounts Officer,  
Indian Council of Agricultural Research  
Agricultural Technology Application Research Institute  
Zone-1, PAU Campus, Ludhiana-141004

*R. N. Singh*  
30.3.21  
Director  
निदेशक/Director  
भारतीय कृषि अनुसंधान परिषद  
Indian Council of Agricultural Research  
कृषि प्रौद्योगिकी अनुप्रयोग अनुसंधान संस्थान, क्षेत्र-1,  
Agricultural Technology Application Research Institute, Zone-1  
पं.क.वि. परिसर/PAU Campus  
लुधियाना/Ludhiana-141004

**Statement of Expenditure for the year of 2019-20 under DAMU**

Sr. No.	University/Institute	Name of KVK	SUB-HEADS			
			Pay Officer/Establishment			
			Revalidated	Released	Expenditure	Balance
1	SKAUST, Srinagar	Kupwara				
		<b>Total</b>	225340	247000	74191	398149
2	CITH, Srinagar	Baramulla				
		<b>Total</b>	459733	0	195141	264592
3	SKAUST, Jammu	Kathua				
		<b>Total</b>	354701	0	0	354701
4		Reasi				
		<b>Total</b>	318577	0	0	318577
5	Dr. YSPUH&F, Solan	Chamba				
		<b>Total</b>	480000	0	194944	285056
6	CSKHPKV, Palampur	Bilaspur				
		<b>Total</b>	285525	247000	289740	242785
7		Sirmaur				
		<b>Total</b>	279497	247000	91053	435444
8		Mandi				
		<b>Total</b>	283378	247000	309215	221163
9	GBPUA&T, Pantnagar	Almora				
		<b>Total</b>	323881	247000	37241	533640
10		Nainital				
		<b>Total</b>	333613	247000	0	580613
11		Pithoragarh				
		<b>Total</b>	321590	247000	0	568590
12	PAU, Ludhiana	Ropar				
		<b>Total</b>	291076	247000	251552	286524
13		Jalandhar				
		<b>Total</b>	285000	247000	467172	64828
14		Ferozepur				
		<b>Total</b>	275015	247000	374650	147365
15		Moga				
		<b>Total</b>	292612	247000	207811	331801
16	GADVASU, Ludhiana	Barnala		0		
		<b>Total</b>	285000	247000	309933	222067
	ICAR-ATARI, ZONE-I		52471	1361455	174407	1239519
	<b>Grand Total</b>		<b>5147009</b>	<b>4325455</b>	<b>2977050</b>	<b>6495414</b>

*Preeti*  
26.3.2021  
Nodal Officer

*Zamy*  
20/3/21  
Asst. Finance and Account Officer  
Assistant Finance & Accounts Officer,  
Indian Council of Agricultural Research  
Agricultural Technology Application Research Institute  
Zone-I, PAU Campus, Ludhiana-141004

*RJ*  
20.3.21  
निदेशक/Director  
भारतीय कृषि अनुसंधान परिषद  
Director  
Indian Council of Agricultural Research  
कृषि प्रौद्योगिकी अनुप्रयोग अनुसंधान संस्थान, क्षेत्र-1,  
Agricultural Technology Application Research Institute, Zone-I  
पं.कृ.वि. परिसर/PAU Campus  
लुधियाना/Ludhiana-141004

**MEMORANDUM OF UNDERSTANDING**

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

1. This memorandum of understanding made at New Delhi on 12/04/2018 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), Department of Agricultural Research and Education, 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 the India Meteorological Department (IMD) the task of establishing weather observing system and development of Gramin Krishi Mausam Sewa in the country. In 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 and sub-district agromet advisories. 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/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 the Gramin Krishi Mausam Sewa, the IMD proposes to establish District AgroMet Units (DAMU) in 530 districts, in addition to already operating 130 AMFUs, in order to meet the said expansion. Among other

responsibilities, DAMU will receive weather forecast from IMD to prepare and disseminate sub-district level agromet advisory bulletins.

ICAR through All India Co-ordinate Research Project on Agro- meteorology (AICRPAM) is pursuing R&D on Agro-meteorology through a network of 35 centres located with SAUs in the country for improvement in weather based advisory and strengthening outreach of advisory bulletin to the farming community. The Central Research Institute for Dry Land Agriculture (CRIDA) and the National Innovation on Climate Resilient Agriculture (NICRA) projects of the Indian Council of Agricultural Research aim 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 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, Agricultural Physics, Soil Science 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, install and inspect Automatic Weather Station (AWS) at all ICAR centres and Krishi Vigyan Kendras (KVKs) by bringing them at par with national network of IMD.
- 3.2 IMD agrees to provide training to personnel/scientists posted at DAMU.

- 3.3 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.
- 3.4 IMD agrees to bear the entire expenditure to be incurred towards installation and maintenance of AWS at DAMUs.
- 3.5 IMD agrees to share records on extreme weather events like hails, frost, heat waves, cold waves etc. with ICAR.
- 3.6 IMD agrees to enable online access to weather data from all the AWS (existing ones and newly planned) to ICAR represented by CRIDA.
- 3.7 IMD agrees to bear salary, travel and contingency allowances for posts of Subject Matter Specialist (SMS-Agrometeorology) working at KVK in the scale of Scientist 'B' i.e. Rs. 15600-39100 (GP- Rs. 5400) and Agromet Observer in the scale of Rs. 5200-20200 (GP Rs. 2000) as per 6<sup>th</sup> CPC or 7<sup>th</sup> CPC prorata on contractual basis co-terminus with the GKMS scheme on year to year extension basis. Annual increment along with service extension will be granted based on review of annual performance, which will also be borne by IMD. Candidates with qualifications in Agrometeorology/Meteorology /Agronomy /Agriculture Physics also considered but preference will be given to candidates with Agrometeorology qualification.

#### **4. OBLIGATIONS OF ICAR**

- 4.1 ICAR agrees to provide suitable site with adequate space (10 mts x 10 mts) with appropriate exposure in research field of KVKs and ICAR centres for installation of AWS, wherever weather station not so far established.
- 4.2 ICAR agrees to exchange data on soil and crop recorded at their centres to DAMUs (KVKs) and IMD.
- 4.3 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.
- 4.4 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.

4.5 ICAR agrees to deploy the SMS (Agrometeorology) 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.

4.6 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 till March 2020. All rights and obligations of IMD and ICAR shall be deemed to have commenced and accrued from that specified date.

#### **6. 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 by both the parties.

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 equipments and material set up by IMD shall be the property of IMD and shall be restored to IMD in case of termination of MoU and IMD shall not claim any right, title or interest in the space provided by ICAR for installation of AWS.

#### **7. 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 or differences shall be referred

to the sole arbitration of a person nominated jointly by the DG, ICAR and DG, IMD. 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 and arbitration proceedings shall be held at New Delhi.

8. This Memorandum of Understanding is in the supersession with the earlier MOU dated 04.06.2014 signed between the contracting parties.
9. In witness whereof the parties here to have executed this Memorandum of Understanding.



(K. K. Singh)

Head (Agromet Advisory Service Division)  
For and on behalf of  
India Meteorological Department  
Ministry of Earth Sciences

नयाँ दिल्ली/Dr. K. K. SINGH  
बैज्ञानिक जी/SCIENTIST-G  
प्रमुख कृषि मौसम विज्ञानी/Head Agromet Services  
पदा संलग्न विभाग/India Meteorological Department  
पृथ्वी विज्ञान मंत्रालय/Ministry of Earth Sciences  
Witnesses:

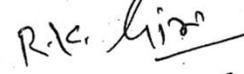


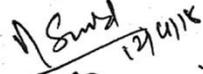
(A. K. Singh)

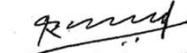
Deputy Director General of Agricultural Extension Division  
For and on behalf of  
Indian Council of Agricultural Research  
Department of Agricultural Research and Education (DARE), New Delhi

Deputy Director General (Extn.)  
श्री. अ. क. सिंघ/Dr. A. K. Singh  
तारीख: 12/11/18  
11002  
110012

1.  12/11/2018  
(Dr S. D. ATTARI)  
IMD.

2.   
(Dr R.K. GIRI)  
IMD.

 12/11/18  
(Randhu Singh)  
ADG

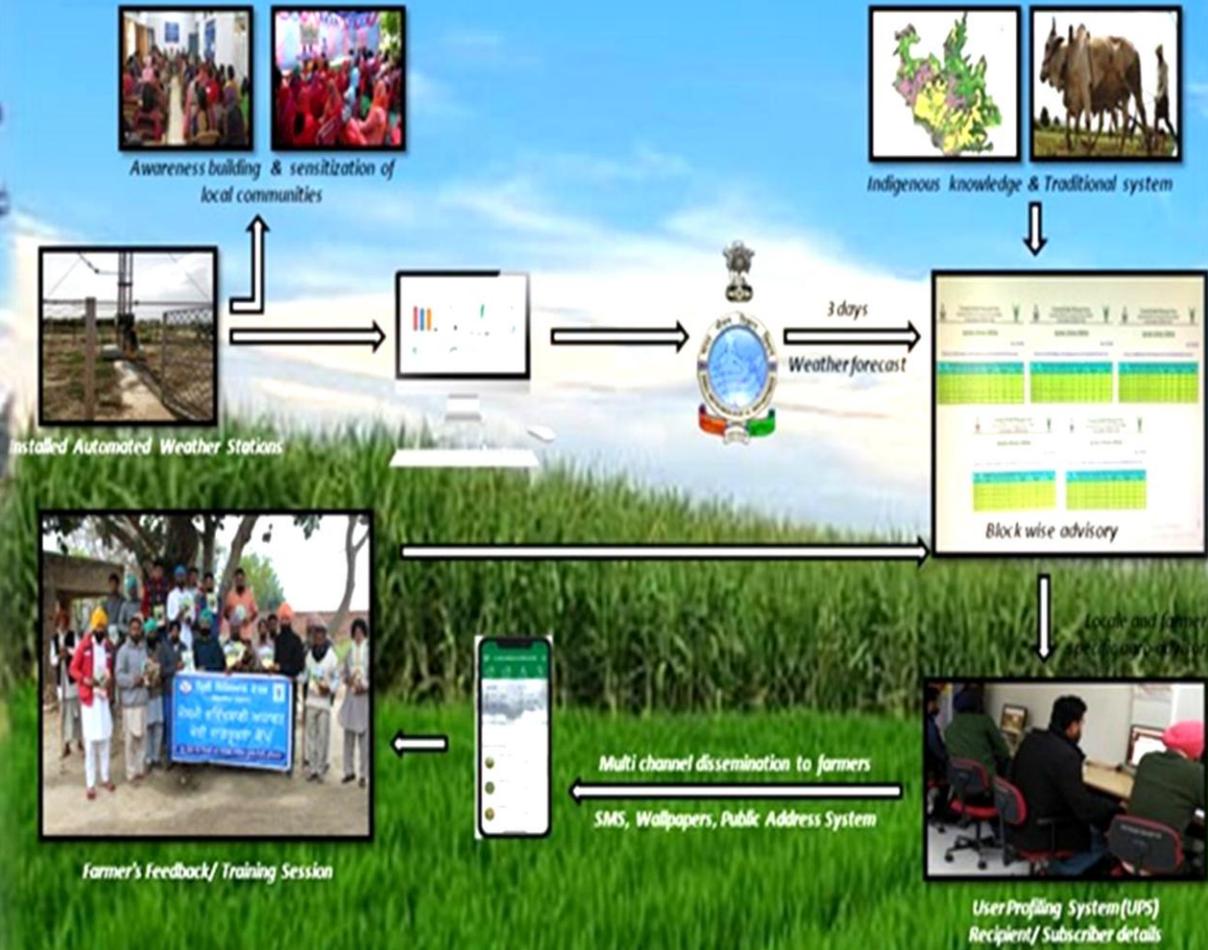
  
(Kanhaiya Chaudhary)  
Director (AE)





हर कदम, हर डगर  
किसानों का हमसफर  
भारतीय कृषि अनुसंधान परिषद

*AgriSearch with a human touch*



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