

ग्रामीण कृषि मौसम सेवा समाचार GKMS-News



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Agricultural Meteorology Division
India Meteorological Department
Ministry of Earth Sciences

In this issue

1. National Activities
2. Lectures
3. Publications
4. Trainings
5. Popularization of Gramin Krishi Mausam Seva (GKMS)
6. Achievement
7. Awareness Programme

National Activities

Meetings /Workshop/Seminar/Training attended by officers of Agromet Advisory Services Division (AASD), New Delhi, Agrimet, Pune, RMCs/MCs, Agromet Field Units (AMFUs) and District AgroMet Units (DAMUs):

- **Shri. S. C. Bhan, Scientist-G & Head, AASD, IMD, New Delhi** attended the following:
- Meeting with Shri. Yogesh Meena, Dy. CGA, PFMS and Technical Team regarding 'making provision for providing AMFUs funds through single route as already operationalized for DAMUs through ICAR' on 4th and 6th July 2023.
 - The 'Mega-Awareness Programme for Farmer's under Azadi Ka Amrit Mahotsav (AKAM)' at Itanagar, Arunachal Pradesh during 11-15 July 2023.
 - 14th meeting of the "Project Monitoring and Advisory Committee (PMAC)" to present progress and future direction of different activities under GKMS on 11th July 2023.
 - TEC meeting of procurement of 330 Agro-AWS on 13th July 2023.
 - Meeting regarding proposal from NRM Division for 'streamlining of Agromet Advisories dissemination through a unified and simplified common portal and opening mKisan portal' at Krishi Bhawan, New Delhi on 23rd August 2023.
 - Meeting to discuss "the arrangements for procurement of Paddy/Rice and Coarse grains/Millet during the ensuing *Kharif* Marketing Season (KMS) 2023-24 (*Kharif* Crop only)" held at Vanijay Bhawan, New Delhi under the Chairmanship of Secretary, Department of Food & Public Distribution on 21st August 2023.
- **Shri. S. C. Bhan, Scientist-G & Head, AASD, IMD, New Delhi** and **Dr. Kripan Ghosh, Scientist-F & Head, Agrimet Division, IMD, Pune** attended Brainstorming workshop on

“Reorienting Education and Research in Agricultural Meteorology for Efficient Agromet Advisory Services and Climate Resilient Agriculture” jointly organised by Association of Agrometeorologists (AAM), Anand and ICAR-CRIDA, Hyderabad during 28-29 September 2023.

➤ **Shri. S. C. Bhan, Scientist-G & Head and Dr. Sheshakumar Goroshi, Scientist-E, AASD, IMD, New Delhi** attended the following:

- Meeting with Additional Secretary & Financial Advisor (AS & FA), ICAR regarding GIA to be provided to AMFU through single already operationalized for DAMU on 3rd July 2023.
- Meeting with eNam (National Agriculture Market) team to discuss sharing list of recently added mandis in the eNam network for providing weather forecast on 3rd July 2023.
- Meeting with Government of Telangana regarding the integration of IMD services (weather forecast and Agromet Advisory) with Telangana Govt IT portal on 10th July 2023.
- Meeting with the Deputy Director General (AE) regarding Unified Agromet Advisory Services to be provided under GKMS and MoU (between IMD & ICAR for implementation of GKMS) to be signed by ICAR on 4th August 2023.
- Meeting with the officials from Bank of Maharashtra in the O/o Programme Head (IMD), MoES regarding to discuss route for fund flow to Agromet Field Units on 20th September 2023.

➤ **Shri. S. C. Bhan, Scientist-G & Head, Dr. Sheshakumar Goroshi, Scientist-E, Dr. A. P. Ramaraj, Scientist-D, Smt. Priyanka Singh, Scientist-D and Dr. Lata Vishnoi, Scientist-C, AASD, IMD, New Delhi** participated in the workshop on “Digital and Financial Services in the Livestock Sector” on 31st August 2023 organised at NASC Complex, Delhi. **Shri. S. C. Bhan** delivered a presentation on “Weather based Advisory Services for livestock in India”.

➤ **Shri. S. C. Bhan, Scientist-G & Head, Dr. Sheshakumar Goroshi, Scientist-E and Smt. Priyanka Singh, Scientist-D, AASD, IMD, New Delhi** attended meeting with officials from Reserve Bank of India, Mumbai to discuss different services provided by IMD on 22nd September 2023.

➤ **Shri. S. C. Bhan, Scientist-G & Head, Smt. Priyanka Singh, Scientist-D and Dr. Lata Vishnoi, Scientist-C, AASD, IMD, New Delhi** attended a Discussion Meeting regarding potential collaboration on automating Agro-Advisory Services in India at ICRISAT Hyderabad on 27th September 2023.

➤ **Shri. S. C. Bhan, Scientist-G & Head, AASD and Smt. Priyanka Singh, Scientist-D, AASD, IMD, New Delhi** attended a meeting with the Secretary, Ministry of Panchayati Raj, New Delhi to discuss about the arrangements in weather forecast dissemination through Green Alert Mausam Sewa web portal on 18th July 2023.

➤ **Dr. Kripan Ghosh, Scientist-F & Head (Agrimet), O/o CR&S, IMD, Pune** attended the following:

- “14th meeting of Project Monitoring and Advisory Committee (PMAC) of IMD” to monitor the periodic progress of the projects under ACROSS-IMD and to suggest suitable remedial measures for successful implementation of the activities on 11th July 2023.
- “MoU (between IMD and IISER) signing ceremony” along with senior officials of IMD and IISER at IISER, Pune on 4th August 2023.
- An online review Meeting chaired by Honourable Minister, Ministry of Earth Science (MoES) with Senior Officials of MoES on 21st August 2023.

- **Dr. Kripan Ghosh, Scientist-F & Head and Dr. Ashutosh Kumar Misra, Scientist-D, Agrimet Division, IMD, Pune** attended “26th session of South Asian Climate outlook Forum (SASCOF-26)” conducted by CR&S, IMD, Pune in collaboration with RIMES and UK Met office during 26-27 September 2023.
- **Dr. Kripan Ghosh, Scientist-F & Head, Dr. Ashutosh Kumar Misra, Scientist-D and Dr. Asha Latwal, Scientist-C, Agrimet Division, IMD, Pune** attended the following:
 - Online talk on “Evolution of cyclone monitoring and forecasting over the North Indian Ocean” by Dr. M. Mohapatra, DG, IMD, New Delhi “Commemorating 50th year of WMO/ESCAP Panel on Tropical Cyclones” on 7th August 2023.
 - Online meeting regarding “Presentations by the short-listed startups” chaired by Dr. M. Mohapatra, DG, IMD, New Delhi on 20th and 21st September 2023.
- **Dr. Sheshakumar Goroshi, Scientist-E, AASD** attended the following:
 - Citizens Charter meeting to update latest information related to Agrometeorological Advisory Services provided under GKMS on 31st August 2023.
 - Seminar/Symposium and Workshop Committee (SSWC) meeting at MoES on 22nd September 2023.
- **Dr. Sheshakumar Goroshi, Scientist-E, AASD and Dr. Lata Vishnoi, Scientist-C, AASD, IMD, New Delhi** attended the following:
 - Meeting with the officials from Digital Agriculture, Ministry of Agriculture to discuss unified platform agrometeorological Advisory Services in India on 23rd August 2023.
 - Meeting with the officials from the International Rice Research Institute (IRRI) to discuss different tools and techniques to be developed under GKMS to enhance outreach of services provided under the scheme on 26th September 2023.
 - *Rabi* conference organised by Ministry of Agriculture and Farmers Welfare on 26th September 2023
- **Smt. Gariyashi Tamuly, SMS (Agromet), DAMU, Baksa, Assam** participated in the Online Course on “Geospatial Technology for Climate Smart Agriculture” conducted by the Indian Institute of Remote Sensing (IIRS), Dehradun from 10-14 July 2023.
- **Shri Ashok Dnyaneshwar Nirwal, SMS (Agromet), AMFU, Aurangabad, Maharashtra** attended 2 days brainstorming workshop on “natural farming” conducted by ATMA department Maharashtra state at KVK Nashik during 24-26 August 2023.
- **Dr. Sameera Qayoom, Nodal Officer and Dr. Aijaz Nazir, Technical Officer, AMFU, Srinagar, Jammu & Kashmir** attended the following:
 - National conference on “The Future of Agriculture and Agriculture for Future; Indian perspective” during 4-6 September 2023.
 - International conference on “Impact of climate change on socio-economics and ecological transformation in Himalayan Region” during 21-22 September 2023.
- **Dr. Kailas K. Dakhore, Principle Nodal Officer, AMFU, Parbhani, Maharashtra** attended the following:

- Pradhan Mantri Fasal Bima Yojana- *Kharif* 2023-2024 meeting at District Collector Office at Parbhani on 4th August 2023, at Hingoli on 14th September 2023 and at Beed on 31st August 2023.
- Brainstorming workshop on “Reorientation of Education and Research in Agricultural Meteorology for Efficient Agrometeorological Advisory Services and Climate Resilient Agriculture” jointly organised by Association of Agromet & CRIDA, Hyderabad at ICAR-CRIDA, Hyderabad during 28-29 September 2023.

Lectures

- **Dr. Kripan Ghosh, Scientist-F & Head (Agrimet), IMD, Pune** delivered an invited lecture on “Weather and climate services for the agriculture sector” through virtual mode in the training programme on “Sustainable Agricultural Water Management Options Under Changing Climate” organised by ICAR-Indian Institute of Water Management, Bhubaneswar in collaboration with National Institute of Agricultural Extension Management, Hyderabad on 21st August 2023.
- **Dr. Ashutosh Kumar Misra, Scientist-D, IMD, Pune** delivered a lecture on “IMD services for the farming community of the country” to the M.Sc. (Agriculture) students and faculty members of Anand Agricultural University, Gujarat on 12th September 2023.
- **Dr. Asha Latwal, Scientist-C, IMD, Pune** delivered an invited lecture on “Climate Change: Causes, Adaptation and Mitigation” through virtual mode in the training programme on “Sustainable Agricultural Water Management Options Under Changing Climate” organised by ICAR-Indian Institute of Water Management, Bhubaneswar in collaboration with National Institute of Agricultural Extension Management, Hyderabad on 22nd August 2023.
- **Shri D. Jena, SMS (Agromet), DAMU, Cuttack, Odisha** delivered lectures on:
 - “Role of different spectrum of weather forecast in Agriculture” to Para extension workers at district agriculture office, Cuttack organized by District Agriculture Department, Cuttack on 24th August 2023.
 - “Different spectrum of weather forecast and importance of block level weather forecast which is playing a catalytic role in doubling farmers income” during training programme for Para-extension workers of Salipur and Tangi Choudwar blocks of Cuttack district organized by Agriculture Department, Cuttack on 27th September 2023.
- **Shri. D. R. Vaghasiya, Technical Officer, AMFU, Junagadh, Gujarat** delivered a lecture on “Climate Change” at Junagadh Agriculture University, Junagadh, Gujarat on 22nd September 2023.
- **Prof. V. D. Vora, Technical Officer, AMFU, Targhadia, Gujarat** delivered lecture on “Importance of Weather forecasting in crop production” to Primary and Secondary School Teachers training programme at AMFU, Targhadia organized by District Education and Training Institute, Rajkot under Eco-club activity programme and also to students of college of Agriculture, Junagadh Agricultural University, Junagadh in the training under RAWE programme at Main Dry Farming Research Station, JAU, Targhadia on 22nd August 2023.
- **Sri Tapas Panigrahi, Jr. Agrometeorologist, GKMS, AMFU, Bhawanipatna, Odisha** delivered a lecture through virtual mode on “Relevance of Agrometeorological information for Crop Production” as resource person of refreshment course for in-service training of Village Agriculture Workers (VAWs) and Agriculture Overseers (AOs) of different district of Odisha under Department

of Agriculture & Farmers' Empowerment, Government of Odisha organised by Regional Institute for Training & Extension (RITE), Rangeilunda on 12th September 2023.

- **Dr. Bhabani Shankar Nayak, Nodal Officer, AMFU, Bhawanipatna, Odisha** delivered a lecture through virtual mode on “Agroclimatic Zones of Odisha” as resource person of refreshment course for in-service training of Village Agriculture Workers (VAWs) and Agriculture Overseers (AOs) of different district of Odisha under Dept. of Agriculture & Farmers' Empowerment, Government of Odisha organised by Regional Institute for Training & Extension (RITE), Rangeilunda on 14th September 2023.
- **Dr. Kailas K. Dakhore, Principle Nodal Officer, AMFU, Parbhani, Maharashtra** participated and delivered lecture on “Agromet Advisory and its impact in Agriculture” in International symposium organised by AAAE at Chatrapati Sambhaji Nagar, Maharashtra during 2-3 October 2023.

Publications

- **Dr. Manjeet, SMS (Agromet), DAMU, Gurugram, Haryana :**
 - **Manjeet**, Anurag, Niwas, R., Kumar, A., Khichar, M.L., Shekhar, C. and Kumar, N., (2023). Spatial and temporal variation in the seasonal air quality index of Haryana, India. *Mausam*, 74(3), 787-794.
 - **Manjeet**, Anurag, Ram Niwas, M. L. Khichar, and Anil Kumar (2023). Study of Climate Change Impact on Crops and Soil Health in India: A Review. *Agricultural Reviews*. 44(3): 357-363. doi: 10.18805/ag.R-2200.
- **Dr. Ananta Vashisth, Nodal Officer, AMFU, New Delhi:**
 - K. S. Aravind, **Ananta Vashisth**, B. Das and P. Krishanan (2023). Multi stage wheat yield estimation using multiple linear, neural network and penalised regression models. *Mausam*, 74 (3): 833-846.
 - **Ananta Vashisth** and Avinash Goyal (2023). Prediction of mustard yield using different machine learning techniques: a case study of Rajasthan, India. *International Journal of Biometeorology*, 67: 539-551. <https://doi.org/10.1007/s00484-023-02434-2>.
- **Smt. Gariyashi Tamuly, SMS(Agromet), DAMU, Baksa, Assam:**
 - **Gariyashi Tamuly**, A. Sarma, R. Hussain and P. Bharali, (2023). Global Warming: Physiological Effects on Crop Productivity. in: *Frontiers in Agriculture Sustainability*, Mangaraj, A.; Sarma, A.; Pandey, K. and Hazarika, S. **Tamuly, G.**; (Eds), Integrated Publications, pp 173-187, ISBN:978-93-5834-031-0.
 - **Gariyashi Tamuly**, A. Sarma, R. Daniel and A. Paul (2023). Nano-Fertilizers an Emerging Approach for Enhancing Nutrient Use Efficiency and Crop Productivity. in : *Current Trends in Agricultural Sciences & Technology*, Maheshwarareddy, C.; Saikia, A.R.; Bezboruah, M. and Elumle, P. Singh, S.S.; (Eds), Vital Biotech Publication, pp 17-28, ISBN:978-93-92953-94-1.
 - A. Raj, A. Sarma, **Gariyashi Tamuly**, and R. Hussain (2023). Bio-Agriculture Paramount for Sustainability: Achieving a Sustainable Future. in: *Current Trends in Agricultural Sciences & Technology*, Maheshwarareddy, C.; Saikia, A.R.; Bezboruah, M. and Elumle, P. Singh, S.S.; (Eds), Vital Biotech Publication, pp 254-267, ISBN:978-93-92953-94-1.

- A. Sarma, A. Raj, **Gariyashi Tamuly** and S.B. Devi. (2023). Natural Farming: The Need of the Hour in the Era of Ecological Crisis. in: *Current Trends in Agricultural Sciences & Technology*, Maheshwarareddy, C.; Saikia, A.R.; Bezboruah, M. and Elumle, P. Singh, A.S.; (Eds), Vital Biotech Publication, pp 29-44, ISBN:978-93-92953-94-1.

Book-

- A. Mangaraj, A. Sarma, K. Pandey, S. Hazarika, and **Gariyashi Tamuly** (2023). *Frontiers in Agriculture Sustainability*. Integrated Publications, ISBN:978-93-5834-031-0

Review Article-

- O. R. Devi, A. Sarma, K. Borah, R. S. Prathibha, **Gariyashi Tamuly**, K. Maniratnam, B. Laishram (2023). Importance of Zinc and Molybdenum for Sustainable Pulse Production in India. *Environment and Ecology*, 41(3C): 1853-1859.
- **Smt. Roman Nissar, SMS(Agromet), DAMU, Kupwara Jammu & Kashmir:** Abstract on “Role of artificial intelligence and big data analytics in climate change mitigation strategies” in international conference on impact of climate change on socio economics and ecological transformation in Himalayan region, organized by Mahima research foundation and social welfare in collaboration with Division of Environmental Sciences, Faculty of Horticulture, SKUAST-K, Shalimar, 21-22 September 2023.
- **Shri . Jayashankar Pradhan, SMS (Agromet) DAMU, Gajapati, Odisha:** Sweekruta Mohapatra, Vivek, Akshay Ujjwal, Trayambak Gurjar, Jyotiprakash Mishra, Tarini Prasad Das, Sanghamitra Pattnaik, Subrat Kumar Mahapatra and **Jayashankar Pradhan**. (2023). Influence of Micronutrient Application on Nutrient Content, Uptake and Residual Soil Nutrient Status in Rice (*Oryza sativa* L.) in Western Uttar Pradesh Condition. *International Journal of Plant & Soil Science*, 35(2): 108-113.
- **Dr. Dheeraj Singh, Nodal Officer & Head and Dr. Bhola Ram Kuri, SMS (Agromet) DAMU, Pali, Rajasthan:**

Research paper

- Singh D, Choudhary MK, **Kuri B. R.**, Kumar C and Tatarwal AS. (2023). Sustainability of salt tolerant varieties to counter climate change under semiarid saline conditions of Pali, Rajasthan. *Journal of Soil Salinity and Water Quality*, 15(1): 104-109.

Popular article

- Tatarwal AS, **Singh D**, Choudhary MK, Dudi A, Kumar C and **Kuri B. R.** (2023). Kharif Dalhan Faslon ki Unnat Kheti. Khad Patirka. July, 2023, pp. 7-18.
- **Dr. Kailas K. Dakhore, Principle Nodal Officer, AMFU, Parbhani, Maharashtra:** Awasthi, N., Tripathi, J. N., Dakhore, K., Gupta, D. K. and Kadam, Y. E. (2023). Assessment of climatic impact on growth and production of rice (Kharif) and wheat (Rabi) using geospatial technology over Haryana. *Mausam*, 74(4), 911-920.

Training

- Four-weeks summer placement course has been organized by Agrimet Division, IMD, Pune during 4th-28th September 2023. B.Tech (Agril. Engineering) students from various universities of Maharashtra has participated in the said course. Scientists of the division delivered lectures on following topics during the course:

- “Agromet Advisory services” by **Dr. Kripan Ghosh, Scientist-F & Head (Agrimet)** and **Dr. Asha Latwal, Scientist-C, Agrimet**.
- “Introduction to Agricultural Meteorology”, “Crop weather Relationship”, “Application of Weather forecasting to Agriculture” and “Basics of Crop weather modelling” by **Dr. Ashutosh Kumar Misra, Scientist-D, Agrimet**.
- “Evaporation and Evapotranspiration” and “Basics of Remote Sensing and its Applications in Agriculture” by **Dr. Asha Latwal, Scientist-C, Agrimet**.

Popularization of GKMS

➤ **Dr. Ananta Vashisth, Nodal Officer, AMFU, New Delhi** gave radio talk on:

- खरीफ फसलों में मौसम आधारित परामर्श at All India Radio in Kisan kee Baat on 15th July 2023.
- भारतीय कृषि अनुसंधान संस्थान की मौसम आधारित कृषि at All India Radio in Kisan kee Baat on 12th September 2023.



➤ **AMFU, New Delhi** made short film on Agromet Advisory Bulletin

(https://youtu.be/_IYJaWm2Umc?si=ls4ectkezMZA7EAo)

➤ **Dr. R. K. Singh, Principal Nodal officer, AMFU, Pantnagar, Uttarakhand** gave a live talk on the topic “EL Nino हुआ एक्टिव, अब मॉनसून में कितनी बारिश, किसानों के लिए क्या संदेश” in Kisan Tak programme on 3rd August 2023. (Link: <https://www.youtube.com/watch?v=zPb2WxWm5TY>)

➤ **Shri. Harshkumar R. Pandya, SMS (Agromet) DAMU, Dahod, Gujarat**, gave radio talk on titled “Vartman samayma havamanna paribaloni krushi pako par asar” on AIR Godhra on 26th September 2023.



Achivements

- **Dr. Ananta Vashisth, Nodal Officer, AMFU, New Delhi** received a certificate of recognition for outstanding contribution as a Distinguished Speaker of the presentation entitled “Prediction of Mustard Yield using Different Machine Learning Techniques: A Case Study of Rajasthan, India” at Virtual Event-2nd Global Summit on Advances in Earth Science and Climate Change (ADV. ESCC 2023) held during 15-16 September 2023.

Awareness Programme

Farmers Awareness Programme (FAP)

Farmers’ Awareness Programme (FAP) are being organized in different states by India Meteorological Department (IMD), Agromet Field Units (AMFUs) and District Agromet Units (DAMUs) with objectives of creating awareness about the usefulness of Agromet Advisory Services (AAS) and weather/climate information among the farming community and also to help to increase the interaction between the local farming communities and the Meteorological Centres (MCs), AMFUs and Krishi Vigyan Kendras (KVKs). Officers also explained the MEGHDOOT and DAMINI Application during the FAP. MEGHDOOT is a joint initiative of the IMD and Indian Council for Agriculture Research (ICAR) to bring high-resolution weather forecast-based Agromet Advisories to farmers in the vernacular. The MEGHDOOT App allows farmers and interested users to access these advisories in a

user-friendly manner. Indian Institute of Tropical Meteorology (IITM), Pune developed a Mobile App called “DAMINI” to give alerts on impending lightning activity over the area and The DAMINI App is available from Play Stores. During the FAPs, mobile numbers of farmers were collected to register in mkisan portal.

AMFUs and DAMUs organized 181 FAPs during July to September 2023. 4 FAPs were organized by 3 AMFUs and 177 FAPs were organized by 40 DAMUs. The details have been given in Annexure I.

Field visit

Officers of IMD, AMFUs and DAMUs made field visits to monitor the standing crop coverage and Pests and Diseases attack on the standing crops and to suggest its control measures. They also made aware the farmers about the use of Weather-based Agromet Advisories and their importance in increasing farm productivity. They explained activities under the GKMS project to the farmers. Officers gave detailed information of Farmers’ registration in m-kisan Portal and SMS service, the usefulness of MEGHDOOT application and DAMU project. The details of field visits during July to September 2023 have been provided in Annexure II.

Other Awareness Programme

AMFUs participated in different awareness programmes like Kisan Mela, seed day, World Soil day etc. to inform about activities under the GKMS project to the farmers. Officer of GKMS Unit briefed about the usefulness of Agromet Advisory Bulletins, mKisan portal, and MEGHDOOT App. They displayed different types of charts that depicted the role of importance of agrometeorological information in Agricultural Sciences and for the farmers. Most of the Meteorological surface observation instruments were also put on display. During the melas, farmers were motivated to register themselves on mkisan portal. AMFUs/ DAMUs disseminated leaf let on Agromet Advisory Services and create awareness about the Climate Smart Agriculture and Use of Digital Gadgets.

Other Awareness Programme conducted during the period:

➤ **DAMU, West Sikkim, Sikkim** participated in the celebration of “DHAN ROPAI” cum “BETHI celebration” & Kisan Mela organised by Agriculture Department Govt. of Sikkim at Bermiok-Martam, Hukumthang village, Hee-Martam block Gyalshing, West District, Sikkim 4th July 2023.



➤ **DAMU, Aurangabad, Maharashtra** actively participated in Annual Zonal Workshop of KVKs organised by ATARI, Pune and KVK, Aurangabad-1 at KVK Aurangabad-1 during 28 to 30 July 2023. One leaflet titled, “आकस्मित होणाऱ्या हवामान बदलानुसार शेतीतील करावयाच्या उपाय योजना” published by DAMU, Aurangabad.



➤ **DAMU, Kolar, Karnataka** conducted capacity development program on activities of District Agro Met Unit, Weather forecasting and Weather based



mobile applications at ICAR-Krishi Vigyan Kendra Kolar on 31st August 2023.

- **ICAR-Krishi Vigyan Kendra, Mandya, Karnataka** conducted a training program on “Agro Ecological Practices” for Community Resource persons of farm livelihood (Krishi-Sakhi) selected by Sanjeevini-Karnataka State Rural Livelihood Promotion Society, Department of Skill Development, Entrepreneurship and Livelihood, Gok on 30th August 2023 and 27th September 2023. Total 60 Krishi Sakhi got benefitted by this programme.



- The Bi-monthly Technical Workshop was organized by **Zonal Agricultural Research Station, V C Farm, Mandya** in collaboration with Department of Agriculture, Mandya on 26th September 2023. **Smt Arpitha S. N., SMS (Agromet)** explained about Agro-ecological practices, types and importance of weather forecasting in farm activities and how to minimize the crop losses from extreme weather events by using localized weather forecast in both the programmes. Furthermore, she also explained about the disseminate of Agromet Advisory bulletins to the farmer at block level and usage of MEGHDOOT, DAMINI and MAUSAM Apps and other important aspects.



- **DAMU, Gajapati, Odisha** celebrated International Year of millets at Tabarsing village on 3rd July 2023 and conducted training on “The impact of climate change on major crop and adaptation and strategies to tackle its outcome” on 1st August and 14th September 2023 at KVK R. Udayagiri.

- **Dr. Nakul Harwadikar, SMS (Agromet), DAMU, Dharashiv, Maharashtra** attended training programme on “Developing Concepts for Climate Projects: Essentials for Government Officials” organised by Bankers Institute of Rural Development (BIRD), Lucknow, Uttar Pradesh during 18-20 September 2023.



- **AMFU, Roorkee, Uttarakhand** organized Kisan Chaupal on “Strategies to water management on farm level” in Nagla Aimad village of Narsan block on 1st September 2023. Prof. Ashish Pandey, Project Officer gave information about the activities of the project and made the farmers aware about proper management of water and its proper use.



- **DAMU, Namisai, Arunachal Pradesh** participated in district level Kisan Mela on “Climate change and importance of weather forecast” at Chowkham village, Namisai on 31st September 2023. 102 farmer visited the stall.



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Glimpses of various FAPs at various places

			
DAMU, Bagalkote, Karnataka	DAMU, Cachar Assam	DAMU, Cuttack, Odisha	DAMU, Tiptur, Karnataka
			
DAMU, Godda, Jharkhand	DAMU, Ramanagara, Karnataka	AMFU, Junagadh, Gujarat	DAMU, Chennai, Tamil Nadu
			
DAMU, West Sikkim, Sikkim	DAMU, Gurugram Haryana	DAMU, Baksa, Assam	AMFU, Pundibari, West Bengal
			
DAMU, Kodagu, Karnataka	DAMU, Puducherry	DAMU, Mandi, Himachal Pradesh	DAMU, Dahod Gujarat
			
DAMU, Shahdol, Madhya Pradesh	DAMU, North 24 Parganas, West Bengal	DAMU, Tiptur, Karnataka	DAMU, Panipat, Haryana
			
DAMU, Washim, Maharashtra	DAMU, Gajapati, Odisha	DAMU, Karnal, Haryana	AMFU, Kharagpur, West Bengal
			
DAMU, Koppal, Karnataka	AMFU, Roorkee, Uttarakhand	DAMU, Birbhum, West Bengal	DAMU, Vellore, Tamil Nadu

Photos of Field visit and other programmes

			
Field visit by DAMU, Cachar, Assam	Field visit by DAMU, Godda, Jharkhand	Field visit by AMFU, Targhadia, Gujarat	Field visit by AMFU, Aurangabad, Maharashtra
			
Field visit by DAMU, Kodagu, Karnataka	Field visit by DAMU, Kupwara Jammu & Kashmir	Field visit by DAMU, Mandya, Karnataka	Field visit by DAMU, Dahod, Gujarat
			
Field visit by DAMU, Dharashiv, Maharashtra	Field visit by DAMU, Rayagada, Odisha	Field visit by DAMU, Vadodara, Gujarat	Field visit by DAMU, Pali, Rajasthan
			
Field visit by DAMU, Vellore, Tamil Nadu	Field visit by AMFU, Roorkee, Uttarakhand	Field visit by DAMU, Puducherry	Field visit by DAMU, Kurukshetra, Haryana

Annexure I

Total 4 FAPs conducted by 3 AMFUs during the period 01-07-2023 and 30-09-2023

Name of the State	Name of AMFU	Name of the District	Name of the Block	Name of the Village	Date of FAP	No of Farmers Attended FAP	No. of Farmers using Meghdoot App
Gujarat	AMFU_Bhachau	Kachchh	Bhachau	Kumbhardi	23-08-2023	51	22
				Gunatitpur	25-08-2023	51	26
West Bengal	AMFU_Pundibari	Cooch Bihar	Haldibari	Haldibari	04-09-2023	200	12
Uttarakhand	AMFU_Roorki	Haridwar	Khanpur	Giddawali Klan	19-09-2023	40	10

Total 177 FAPs conducted by 40 DAMUs during the period 01-07-2023 and 30-09-2023

Name of the State	Name of DAMU	Name of the District	Name of the Block	Village Name	Date of FAP	No of Farmers Attended FAP	No. of Farmers using Meghdoot App		
Andhra Pradesh	DAMU_Kadapa	Kadapa	Pulivendla	Pulivendula	19-09-2023	60	10		
	DAMU_Srikakulam	Srikakulam	Amadalavalasa	Amadalavalasa	25-07-2023	25	13		
					04-08-2023	25	7		
				Pathuru	16-08-2023	26	11		
Assam	DAMU_Barpeta	Barpeta	Mandia	Silochi Pather	27-07-2023	42	8		
				Kadang	09-08-2023	48	11		
				Sonapur	18-08-2023	49	8		
				Jaipur	19-08-2023	24	4		
			Ruposhi	Guileza	28-08-2023	26	6		
			Mandia	Shewarvita	31-08-2023	27	5		
	DAMU_Cachar	Cachar	Salchapra	KVK	Borkhola	Borkhula Part1	26-07-2023	41	12
					Sonai	Saidpur Part3	27-07-2023	53	15
							24-08-2023	30	6
							31-08-2023	42	13
							13-09-2023	46	12
							20-09-2023	51	8
							21-09-2023	47	8
							22-09-2023	30	8
		26-09-2023	30	10					
		27-09-2023	30	9					
		28-09-2023	30	11					
Bihar	DAMU_Nawada	Nawada	Kawkol	KKV Campus	05-07-2023	31	4		
					20-07-2023	30	4		
					09-08-2023	30	4		
					23-08-2023	30	3		
					14-09-2023	30	4		
					20-09-2023	22	3		
Gujarat	DAMU_Amreli	Amreli	Amreli	Varsada	16-09-2023	42	2		
				Randhiya	25-09-2023	79	5		
	DAMU_Dahod	Dahod		Sanjeli	Zusa	10-07-2023	22	8	
				Garbada	Abhlod	16-07-2023	30	11	
				Jhalod	Datiya And Kaligam	18-08-2023	60	24	
				Limkheda	Pali	23-08-2023	60	21	

			Dohad	Mandvav	29-08-2023	73	29		
			Sanjeli	Chakisana	13-09-2023	65	28		
			Singvad	Mota Ambaliya	13-09-2023	71	31		
			Sanjeli	Bhamela	25-09-2023	25	13		
			Dohad	Nagrala	26-09-2023	30	13		
	DAMU_Dang	Dangs	Waghai	Waghai	21-07-2023	53	12		
					25-07-2023	42	10		
					26-07-2023	47	13		
					28-07-2023	36	11		
					22-08-2023	32	16		
					24-08-2023	40	13		
	DAMU_Jamnagar	Jamnagar			Ahwa	Ahwa	12-09-2023	47	14
					Jamjodhpur	Sonvadiya	06-07-2023	26	0
					Jamjodhpur	Daldevadiya	07-07-2023	26	0
					Jamnagar	KVK Jamnagar	27-07-2023	75	0
					Dhrol	Jayva	02-08-2023	26	0
					Jamnagar	KVK Jamnagar	22-08-2023	45	0
					Dhrol	Khengaraka	31-08-2023	26	0
					Jodiya	Jamdudhai	13-09-2023	7	0
Jamnagar					Kvk Jamnagar	24-09-2023	65	0	
Jamnagar					Theba	27-09-2023	280	0	
DAMU_Surat	Surat			Surat-City	Vnsgu Student	23-08-2023	62	0	
Haryana	DAMU_Jhajjar	Jhajjar	Jhajjar	Gwalison		25-07-2023	15	5	
	DAMU_Kurukshetra	Kurukshetra	Thanesar		CRS		03-07-2023	99	6
					Aakashwani Radio Sation		04-07-2023	90	11
					KVK Premises		18-07-2023	60	6
					CRS		01-08-2023	99	10
					Aakashwani Radio Sation		02-08-2023	99	90
					KVK Premises		05-08-2023	55	5
					KVK Premises		08-08-2023	50	5
					KVK Premises		11-08-2023	40	8
					KVK Premises		17-08-2023	25	6
					CRS		23-08-2023	99	6
					AIR		24-08-2023	99	17
					CRS		01-09-2023	90	6
					Aakashwani Radio Sation		02-09-2023	95	9
					KVK Premises		11-09-2023	35	6
					KVK Premises		13-09-2023	49	9
					KVK Premises		14-09-2023	52	9
					KVK Premises		15-09-2023	55	11
	KVK Premises		16-09-2023	45	9				
KVK Premises		17-09-2023	25	6					
Pindarsi		21-09-2023	19	5					
Jammu and Kashmir	DAMU_Baramulla	Baramulla		Wagoora	Bhanji	17-07-2023	100	25	
				Kunzer	Hurdhani	27-07-2023	32	2	
				Sopore	Mundji	30-08-2023	8	0	
Karnataka	DAMU_Bagalkot	Bagalkote	Bagalkot	Kvk Bagalkote	01-07-2023	25	6		

			Jamkhandi	Sanala	11-07-2023	28	6		
			Bagalkot	Kvk Bagalkote	19-07-2023	33	12		
			Bagalkot	Bagalkote	27-07-2023	30	4		
			Hungund	Kodihal	31-07-2023	38	4		
			Bagalkot	Bagalkote	05-08-2023	38	6		
			Bagalkot	Kvk Bagalkote	24-08-2023	23	3		
			Bagalkot	Bagalkote	26-08-2023	36	8		
			Bagalkot	Mallapur	12-09-2023	22	4		
			Bagalkot	Chebbi	13-09-2023	23	2		
	DAMU_Kolar	Kolar	Kolar	Kolar	ICAR KVK Kolar	12-07-2023	40	40	
					ICAR KVK Kolar	13-07-2023	58	30	
					ICAR KVK Kolar	17-07-2023	60	20	
					ICAR KVK Kolar	31-08-2023	53	53	
	DAMU_Mandya	Mandya	Mandya	Mandya	V C Farm	30-08-2023	30	5	
					V C Farm	26-09-2023	42	8	
					V C Farm	27-09-2023	30	6	
	DAMU_Ramanagara	Ramanagara	Ramanagara	Magadi	Channapatna	Kanva	15-07-2023	43	12
					Magadi	Chandurayanahalli	17-07-2023	31	11
						Hakkinalu	22-07-2023	52	10
						Hakkinalu Colony	02-08-2023	30	8
						Chandurayanahalli	01-09-2023	23	12
						Chandurayanahalli	02-09-2023	24	8
					Ramanagara	Madenahalli	13-09-2023	57	15
					Ramanagara	Bananduru	15-09-2023	51	14
	Magadi	Hosapalya	26-09-2023	31	12				
	Kerala	DAMU_Kollam	Kollam	Pathanapuram	Punalur	16-09-2023	876	0	
	Madhya Pradesh	DAMU_Barwani	Barwani	Barwani	Sendhawa	Jamli	04-09-2023	75	43
Newali					Niwali	06-09-2023	48	28	
Barwani					Talon	08-09-2023	46	31	
Thikri					Talwada	25-09-2023	18	18	
DAMU_Shivpuri		Shivpuri	Kolaras	Panoda	10-07-2023	28	8		
Maharashtra	DAMU_Amravati	Amravati	Amravati	Bhatkuli	Dadhi	05-07-2023	35	6	
				Chandur-Bz	Sarphapur	13-07-2023	39	6	
				Bhatkuli	Kamnapur	17-07-2023	17	2	
				Nandgaon-Kh	Dhanora Gurav	23-08-2023	38	12	
				Nandgaon-Kh	Shingnapur	23-08-2023	27	5	
	DAMU_Nandurbar	Nandurbar	Nandurbar	Nandurbar	Akrani	Akrani	16-07-2023	41	28
					Nandubar	Nandurbar	21-07-2023	24	8
					Akrani	Akrani Block	27-07-2023	48	18
					Taloda	Taloda	13-09-2023	18	6
	DAMU_Osmanabad	Osmanabad	Osmanabad	Tuljapur	Tuljapur	21-07-2023	90	12	
					Tuljapur	24-07-2023	100	6	
					Tuljapur	27-07-2023	106	9	
					Lohgaon	29-07-2023	123	12	
					Tuljapur	21-08-2023	55	9	
DAMU_Palghar	Palghar	Dahanu	Dhanivari	05-09-2023	18	10			
DAMU_Solapur	Solapur	Madha	Uplai	20-09-2023	18	11			

			Mohol	Pokhrapur	27-09-2023	24	14
	DAMU_Washim	Washim	Malegaon	Bhaurad	16-09-2023	75	10
			Risod	KVK Karda	26-09-2023	117	30
Meghalaya	DAMU_West_Khasi_Hills	West Khasi Hills	Mawthadraishan	KVK Campus Nongshiilong	12-07-2023	67	29
			Mawthadraishan	Mawroh	18-08-2023	21	8
			Nongstoin	Jaidoh	21-08-2023	42	17
			Mawthadraishan	KVK Campus	15-09-2023	21	7
Odisha	DAMU_Ganjam	Ganjam	Bhanjanagar	Danguapalli	14-09-2023	50	6
Punjab	DAMU_Jalandhar	Jalandhar	Nurmahal	Talwan	20-09-2023	76	0
Rajasthan	DAMU_Pali	Pali	Sumerpur	Bapu Nagar	27-09-2023	17	0
Tamil Nadu	DAMU_Ramanathapuram	Ramanathapuram	Mandapam	Thamaraikkulam	17-07-2023	85	2
			Tiruvadana	Thiruvadana	18-07-2023	106	6
			Mandapam	Karikuttam	19-07-2023	52	2
			Ramanathapuram	Ramanathapuram	20-07-2023	82	2
			Ramanathapuram	Ramanathapuram	21-07-2023	250	6
	DAMU_Trichy	Tiruchirappalli	Uppiliapuram	Nettavedampatti	05-07-2023	22	2
			Lalgudi	Koohur	14-07-2023	18	1
			Andanallur	Koppu	16-07-2023	72	2
			Manikandam	Thayanur	27-07-2023	26	2
			Musiri	Thiruthalaiyur	25-08-2023	18	2
	DAMU_Vellore	Vellore	Gudiyattam	Kallapadi	26-07-2023	25	7
			Kaniyambadi	Kilpallipattu	04-09-2023	28	13
Telangana			Gundala	Rayapdu	03-08-2023	60	2
Uttar Pradesh	DAMU_Bhadradri	Badradri	Khekra	KVK Baghpat	18-07-2023	41	20
			Baghpat	Gothra	19-07-2023	20	10
			Khekra	Sankrod	10-08-2023	16	10
			Pilana	Pilana	14-08-2023	23	10
			Binauli	Binoli	17-08-2023	25	12
			Khekra	KVK Baghpat	19-08-2023	20	10
			Pilana	Dhikoli	28-08-2023	20	8
			Khekra	Katha	14-09-2023	20	10
			Khekra	Bdagav	20-09-2023	25	0
			Khekra	KVK Baghpat	22-09-2023	50	50
	DAMU_Chitrakoot	Chitrakoot	Karwi	Ludhwar	06-07-2023	20	6
			Karwi	Itraur	14-07-2023	20	8
			Manikpur	Kuin	19-08-2023	55	17
Uttarakhand	DAMU_Pithoragarh	Pithoragarh	Pithoragarh	Paggana	12-07-2023	20	1
			Munakot	Sallachingri	19-07-2023	24	2
			Pithoragarh	Gaina	26-07-2023	20	1
			Munakot	Suakot	14-08-2023	30	0
			Munakot	Lelu	17-08-2023	20	0
			Munakot	Ghingari	11-09-2023	20	0
			Pithoragarh	Gaina	14-09-2023	22	2
West Bengal	DAMU_Birbhum	Birbhum	Rajnagar	Sankarpurdihi	14-09-2023	55	2
	DAMU_Jalpaiguri	Jalpaiguri	Maynaguri	KVK Campus	31-07-2023	50	5
			Jalpaiguri	Das Para	07-08-2023	55	15
			Nagrakata	Nagrakata	08-08-2023	30	5
DAMU_Malda	Malda	English-Bazar	Malda Sadar	22-08-2023	35	10	

Annexure II

Field visits conducted during the period July to September 2023:

State	AMFU/ DAMU	Place	Date
Assam	DAMU, Cachar	Niz Borkhula part II, Borkhula III, Salchapra, Sonai block, Cachar	26.07.2023 to 30.09.2023
		Sridharpur, Salchapra block ,Cachar	07.08.2023, 11.08.2023, 12.08.2023, 24.08.2023, 27.08.2023, 28.09.2023 & 30.09.2023
Gujarat	DAMU, Vadodara	Vagetha village, Bodeli block, Chhotaudepur district	03.07.2023
		Vandarda village, Bodeli block, Chhotaudepur district	28.08.2023
		Bhuriyakuva & Kadvaliya villages, Bodeli block, Chhotaudepur district	29.08.2023
		Sunderpura village, Sankheda block	13.09.2023
	AMFU, Junagadh	Bagadu village, Junagadh	18.07.2023
	AMFU, Targhadia	Sindhavadar, Pipaliya Raj villages, Wankaner taluka, Rajkot district	15.07.2023
		Soliya, Ardoi and Rajgadh villages, Kotda Sangani taluka, Rajkot district	31.07.2023
		Sindhavadar, Pipaliya Raj and Valasan villages, Wankaner taluka, Rajkot district	16.09.2023
	DAMU, Dediapada	Besna village, Dediapada taluk	06.07.2023
		Vedchha village and Andu village, Dediapada taluk	14.08.2023
Maktampura, collage of agriculture, Bharuch.		28.08.2023	
Rajpipla village		12.09.2023	
Ralda village, Dediapada taluk		30.09.2023	
DAMU, Dahod	Mota Ambaliya village, Singvad taluk and Chakisana village, Sanjeli taluk	13.09.2023	
Karnataka	DAMU, Kodagu	Marur village, Kushalnagar taluk	11.07.2023
		Chikkalluvara village, Somwarpet taluk	31.07.2023
	DAMU, Mandya	Hullenalli village, Mandya taluk	07.07.2023
		Chikkaharohalli village, Srirangapattana taluk	01.08.2023
DAMU, Koppal	Kanakagiri block and Koppal block	25.09.2023	
Haryana	DAMU, Kurukshetra	Pindarsi village	21.09.2023
Jammu & Kashmir	DAMU, Kupwara	Gusshi & Deedikote villages	08.08.2023
		Awoora, Qadirabad villages	15.08.2023
		Kalaroose & Sogam villages	19.09.2023
		Rajwar village	20.09.2023
	AMFU, Srinagar	Agromet observatory, AMFU Srinagar	21.09.2023
Jharkhand	DAMU, Godda,	Bagmunda village, Poraiyahat block	26.07.2023
		Beltoppa village, Poraiyaha block	09.08.2023
Maharashtra	AMFU, Aurangabad	Sillod village, Pimpri taluka	10.07.2023
		Kacchighati Tq. Aurangabad	02.08.2023
		Pimpalgaon walan, Pimpalgaon Dev, Kanhegaon tq. Phulambri	06.09.2023
	DAMU, Dharashiv	Kalam Block (08 field visits)	28.07.2023
		Lohara Block (09 field visits)	23.08.2023
		Dharashiv block (11 field visits)	27.09.2023
Odisha	AMFU, Chiplima, Sambalpur	RRTTS, Chiplima, Dhankauda block	26.07.2023
		Rupapali, Dhankauda block	09.08.2023

	AMFU, Rayagada	Pradhaniguda village, Gunupur block	03.07.2023
		Srirampur village, Ramnagudar block	12.07.2023
		Turkaniguda village	24.07.2023
		Chalkhamba village	05.08.2023
		Rupapadar village	16.08.2023
		Dandaguda village, Gunupur Block	31.08.2023
		Arei village	13.09.2023
		Srirampur village	26.09.2023
Puducherry	DAMU, Puducherry	Ariyapalayam village	24.08.2023
		Pillaiyarkuppam, Chettipet, Sanjeevi nagar	11.09.2023
		Aranganur village	14.09.2023
		Katterikuppam village	16.09.2023
		Pillaiyarkuppam village	21.09.2023
Rajasthan	DAMU, Pali	Bapu Nagar village, Sumerpur block	27.09.2023
Tamil Nadu	DAMU, Vellore	Maruthavallipalayam village, Anaicut block	27.09.2023
		Mottupalayam village, Kaniyambadi block	27.09.2023
Uttarakhand	AMFU, Ranichauri	Gaja, Nakot village, Narendranagar & Chamba block	01.07.2023
		Aagar gaon, Narndranagar, villages, Narndranagar block	07.07.2023
		Devvari, Kudi village, Chamba & Narndranagar block	10.07.2023
		Laser, Kharsara village, Deoprayag block	15.07.2023
		Paukhal village, Bhilangana block	27.07.2023
		Jakhnyali village, Bhilangana block	03.08.2023
		Kamand, Neri village, Thauldhar block	16.08.2023
		Jaajal, Khadi, Narendranagar village, Narndranagar block	25.08.2023
		Dhanolti, Danda ki Belli village, Jaunpur (Thytur) block	26.08.2023
		Genvali, Petab village, Jakhnidhar block	02.09.2023
		Ghunti, Ghansali village, Bhilangana block	08.09.2023
		Ghuttu, Paonli Kantha village, Bhilangana block	09.09.2023
	Jasipur, Nail village, Chamba block	20.09.2023	
	AMFU, Roorkee	Monu Saini of Purwala Birsinghpur village of Laksar block, Sonu, Sandeep and Manoj Saini of Gidwala Klan village of Khanpur block, Haridwar district	06.09.2023
West Bengal	AMFU, Kakdwip	Budhakhali Village of Namkhana Block	10.08.2023
		Bhagbatpur village of Patharpratima block	14.09.2023
		Dakshin Chandranagar village of Namkhana block	14.09.2023, 21.09.2023
	DAMU, Purulia	Jadugora village, Bagmundi block	10.08.2023
		Haramjunga village, Purulia-II block	14.09.2023