



Newsletter

GRAMIN KRISHI MAUSAM SEWA
DISTRICT AGROMET UNIT



ICAR-AGRICULTURAL TECHNOLOGY APPLICATION RESEARCH INSTITUTE KOLKATA

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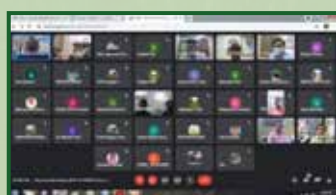
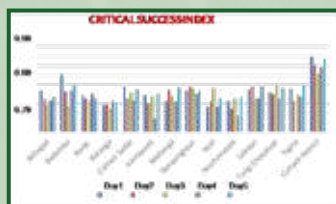
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INTRODUCTION

The District AgroMet Unit (DAMU) at Krishi Vigyan Kendras (KVKs) under Gramin Krishi Mausam Sewa (GKMS) scheme, prepare and disseminate sub-district level agromet advisory bulletins after receiving weather forecast from IMD. Automatic Weather Station (AWS) have been installed at KVKs to record agromet observations and generate agrometeorological information for use in studies of crops, pests and diseases, soil, agro-forestry, livestock, horticulture, agricultural physics, soil science etc. As of now a total of 15 DAMU KVKs; seven from West Bengal and eight from Odisha are functioning. These KVKs with DAMU are providing weather forecast bulletins to the farmers since the inception of the Project. Weather forecast bulletins/special bulletins are generated in English and local languages and communicated to the farmers well in advance. Agromet Advisory Bulletins are prepared twice a week and circulated among all the farmers of the district. Several modes of dissemination of advisories are used like email, messages, whatsapp group, social media, through input dealers, block level extension functionaries, through village based Clusters etc. These information, advisories and special bulletins are very much helpful to the farmers especially during extreme weather conditions. Mobile SMSs are disseminated directly to the farmers well in advance. In view of cyclone *JAWAD*, in the month of December 2021, special bulletins, conference call with farmers and post cyclone advisories were disseminated well in advance to the farmers of all the districts of Odisha, West Bengal and neighbourhood by the DAMUs. This helped the farmers to a great extent in minimizing the loss during this cyclonic storm. KVKs are taking initiatives in popularizing of ‘*Meghdoot*’ and ‘*Damini*’ mobile apps for outreach of Agromet Advisories and to help individuals keep updated about thunderstorm/lightening likely to strike in their locations. Timely and accurate extreme weather alerts helps the farmers to take most suitable precautionary and adaptive measure for minimizing their crop damage. An online interaction to discuss various matters/issues of GKMS (DAMU) at KVKs of Odisha and West Bengal was organized by ICAR-ATARI Kolkata on July 19, 2021. The Annual Review Workshop 2021 of Gramin Krishi Mausam Sewa (GKMS) was organized online by ICAR-ATARI Kolkata on July 30, 2021 attended by all DAMU KVKs of the Zone. Besides providing weather forecast bulletins to the farmers, DAMU KVKs organized farmers awareness programmes through which around 3000 number of farmers benefitted. All the SMSs Agromet are conducting OFTs FLDs considering the farmers problem with weather/climatic issues. Several extension programme/field visits/Agri fairs/trainings were organized.



"No race can prosper until it learns there is as much dignity in tilling a field as in writing a poem."

- Booker T. Washington

KVK PURULIA

District Agromet Unit (DAMU) Purulia conducted five Farmers Awareness Programmes (FAPs) on Jul 24, Aug 13, Sep 9, Oct 25 and Nov 22, 2021 at different blocks of the district. In these awareness programmes, the activities of DAMU at KVK Kalyan, Purulia were discussed briefly in the beginning. Then details of Agromet Advisory Service (AAS) and the role of weather based farm advisory in rainfed farming, importance of weather based advisories on Tasar cultivation, importance of AAS on pest-disease management and management on Rabi oilseed were discussed. Finally, there was one interaction session with the farmers regarding several issues they are facing during the crop cultivation and details of the participants were registered. Total 126 nos. of farmers and farm women were present at these FAPs. Five Farmer's Field Visits were conducted on Jul 5 and 22, Nov 16, Dec 20 and 23, 2021 at villages-Jambad, Haramjunga, Biltora, Rahamda and Arjunjora. A total of 34 nos. farmers were visited during these field visits. Six lectures were delivered by SMS (Agromet) and Agromet Observer as Resource Person on Sep 4, 22, 23 and 28, Dec 4, 17 and 31, 2021 on topics: Weather-parameters and their impact on Agricultural Product, Strategies for Enhancement of Farmers Income in Dryland Agriculture, Agro-ecological situation and Agro-eco system approach, Relevance of Agro-meteorological information for crop production, Suitable cropping systems for the existing Agro-ecological situation. 239 no. of participants were present in these lectures. Farmer-Scientist Interactions were also conducted during these lectures. Two nos. of SMS were sent through mKisan Portal. The SMS (Agromet) and Agromet Observer attended two offline and two online trainings during Sep 29-Oct 1, 2021 (offline) on Transfer of Ready to Use and Farmers Friendly Technology Developed by BCKV, organized by BCKV; Nov 22, 2021 (online) on Familiarisation Programme on GKMS activities for Agromet Observer of DAMU organized by IMD; Dec 7-9, 2021 (offline) on Scientific Agri-Horticultural Practises to Augment The Income From Small Farming; and Dec 16, 2021 (online) on Validation of model pest status over selected states under GKMS Scheme organized by IMD. A total of 18 nos. of news paper coverage and 2184 nos. of bulletins (including District level and Block level in English and as well as Regional Language) and 4 nos. of Special Bulletins for extreme weather alert were issued during the period.



KVK MALDA

The District Agromet Unit of Malda KVK, Ratua have conducted seven FAPs during July to December, 2021. Around 250 farmers and farm women took part in the programmes. 11 nos. of field visits have been made to assess the crop conditions of the district. Additional 200 farmers have been added in the whatsapp group of DAMU Malda for scientist-farmers interactions. Apart from this, about 7000 farmers have been added recently from different blocks of Malda for free SMS service through mKisan portal. Regular feedbacks are being taken from the farmers for betterment of the agro-advisories dissemination. Mr. Rajkumar Mondal from Gobindapur Village under English Bazar block has highly praised the accuracy of the forecasts and agro-advisories which have helped him in achieving higher yield and timely harvesting of crops. The recent extended range forecasts for the cyclone JAWAD have helped the farmers of the district to harvest and store the Aman paddy in safe places thereby preventing the post-harvest losses. The ARG at Ratua KVK has been restored and is fully operational with the interventions of RMC Kolkata. The SMS (Agromet) participated as a resource person for block meetings of Gazole, Bamongola, Habibpur and Kaliachak-II blocks of the district, organized by the office of Asst. director of Agriculture, Dept. of Agriculture, Govt. of West Bengal.

✿ SUCCESS STORY:



Name of farmer: Kailash Mondal

Address: Paschim Naryanpur, Manikchak, Malda, **Ph.:** 8001654061

Size of land holding: 1.0 acre

Component Description		Prior To GKMS scheme (2017-18)	
Components	Names	Area (Acre)/Number	Income (Rs/year)
Field crops	Local cultivars of pulse, paddy	1.0	55,000.0
Horticultural crops	NA	NA	-
Livestock	Goats	2.0	5,200.00

Component Description		Post GKMS scheme		Increase in income from base year (%)
Components	Names	Area (Acre)/ Number	Income (Rs/year)	
Field crops	Improved varieties of black gram and paddy	2.0	1, 27,000.00	57
Horticultural crops	Papaya	0.10	10,000.00	100
Livestock	8	NA	20,000.00	74

The farmer used to get annual income of Rs. 60,200 from indigenous cropping practices of blackgram and paddy etc. He faced problems like pest and disease infestation, low or no yield due to flooding, lack of knowledge etc. With interventions under GKMS scheme like utilizing the climate resilient practices, weather forecast based cropping practices, disease and pest forewarning etc., he is getting annual income of Rs. 1,57,000.



KVK NORTH 24 PARGANAS

DAMU of KVK North 24 Parganas conducted three Farmers Awareness Programmes on Aug 3, Sep 28 and Dec 6, 2021 at Kalitala, Sandeshkhali-II block and KVK campus. Around 100 farm women and farmers participated in the FAPs. In these programmes, introductory speech was given by SMS (Agromet) of the KVK. He addressed the farmers and farm women about DAMU and Agromet Advisory Bulletin. He also explained the utility of *Meghdoot* mobile app for weather updates and *Damini* mobile app for lightening updates in these blocks. Farmer's contact numbers are also taken for dissemination of Agromet Advisory Bulletin through whatsapp groups and they are

advised what to do through contingency crop planning. 48 nos. of district and block level bulletins were published, one special bulletin was published on 2nd December, 2021 as warning for JAWAD cyclone over North 24 Parganas district. These bulletins are disseminated through different whatsapp groups for each block of the district (22 groups created so far for 22 blocks of North 24 Parganas) and also disseminated to Reliance Foundation and DAESI whatsapp groups. Bulletins are also disseminated by mail to the following departments of the district: Deputy Director of Agriculture (Administration); Assistant Director Fisheries; ADF Brackish Water; ADA Hingaljanj; ADA Baduria; ADA Hasnabad; ADA Minakhan; ADA Sandeshkhali-I; ADA Swarupnagar; ADA Barasat-1; The Regional Meteorological Centre, Kolkata; and GKMS Kalyani, BCKV. Besides these activities, one on station trial is also ongoing in the KVK by DAMU for rabi season of 2021-22 where the main objective is assessment of optimum planting times of tomato in sandy loam soil of North 24 Parganas district and shifting of planting dates earlier to improve yield.



KVK MURSHIDABAD

District Agromet Unit of Murshidabad KVK organized a Farmers' Awareness Programme on 24th September, 2021 on Climate Change and its effect on Agriculture & Climate Resilient Crop Production Techniques. The programme was organized at Kuchgiria Village of Bhagwangola-1 block. Total 30 nos. of farmers and farm women from Kuchgiria and neighbouring village Hossainnagar attended the programme. The main objective of the programme was to emphasize the effects of climate change and how much it affects the yield of different crops. In this programme, details of different cause of climate change both natural and manmade especially the ones which affect the agriculture and allied sectors were elaborately discussed. The techniques to combat these challenges were also delivered to the farmers. To popularize the *Meghdoot* app among the farmers, a brief introduction of its application was also presented and the farmers were encouraged to use this application. Till date 141 numbers of farmers downloaded this app.



KVK JALPAIGURI

District Agromet Unit of Jalpaiguri KVK has organized five nos. of on/off campus Farmers Awareness Programmes on Jul 26, Aug 5 and 16, Sep 28 and Dec 28, 2021. A total of 147 nos. of farm women and farmers actively participated in these programmes. Different modes of communications have been expounded to the farming community helpful for real time weather updates along with agromet bulletins. So far there are 24 whatsapp groups consisting of 580 farmers and farm women where AAS bulletins are regularly updated. 32 nos. of recipients receive these updates through emails. Three SMSs were delivered through mKisan portal where 5450 farmers are enlisted. Two special bulletins were also issued during this period.



KVK CUTTACK

Awareness programme on 'Gramin Krishi Mausam Seva and Meghdoot app popularization' was organized by DAMU, KVK Cuttack at Jhahjia village of Badamba block on 06 September 2021, Saigoda Village of Salepur block on 15 September 2021 and Ganeswarpur village of Tangi Choudwar block on 23 October 2021. Total no. of 125 farmers and farm women participated in the programme. SMS (Agrometeorology) and Agromet Observer of the KVK highlighted the importance of block level agro-advisory service, which was implemented by IMD-ICAR joint effort and explained the significance of block level weather forecast on agriculture and way of activity of "Gramin Krishi Mausam Seva".



Awareness programme on 'Gramin Krishi Mausam Seva and Meghdoot app popularization' was organized by DAMU at KVK Cuttack Campus on 28 September 2021, 16 November 2021 and 23 December 2021. Total no. of 75 farmers, farmwomen, rural youths and extension officials like Krishi and Pranimitras, participated in the programme. SMS, Agrometeorology and Agromet Observer highlighted the importance of block level agro-advisory service, which was implemented by IMD-ICAR joint effort and explained the significance of block level weather forecast on agriculture and way of activity of "Gramin Krishi Mausam Seva". The Senior Scientist & Head of KVK Cuttack Chaired the awareness programme and briefed about the achievements of DAMU, KVK Cuttack and also sensitized the farmers to follow the block level agromet advisory services issued by DAMU, KVK Cuttack.



On view of “Azadi Ka Amrit Mahotsav” DAMU of KVK Cuttack, Odisha and Meteorological Centre, Bhubaneswar, Odisha jointly organized one Farmers Awareness Programme on Agromet services on Oct 21, 2021 at Mulabasant village of Mahanga block. Dr H.R. Biswas, Director, MC-Bhubaneswar and Dr Sujata Sethy, Nodal officer DAMU and OIC, KVK Cuttack, SMS, Agromet, Meteorologist-A from MC, BBSR, Odisha, Agromet Observer from DAMU, KVK Cuttack were physically present in that programme to aware the farmers about GKMS activities. Around 40 Farmers and Farmwomen participated in that programme.



Fifty-two Block level Agromet Advisory bulletins and five Special Agromet Advisory bulletins (Before depression in September 2021, Cyclone ‘Jawad’ in December 2021, cold wave condition in December 2021) were issued by DAMU, KVK, ICAR-NRRI, Cuttack covering 250 stakeholders and nearly 2115 progressive farmers through 25 WhatsApp groups and e-mail and 80360 farmers were covered through SMS in collaboration with Reliance Foundation during Cyclone ‘Jawad’. A field visit was undertaken to some progressive farmer’s field of Cuttack district on Nov 25, 2021 who are following the block level weather forecast based agromet services of DAMU, KVK, ICAR-NRRI, Cuttack. farmer named Sri Iswara Chandra Swain and Sri Suresh Chandra Swain from Haritha village of Badamba block cultivated unseasonal cauliflower based upon weather forecast based agromet service in 4 acre land and another farmer named Sri Baidhar Pradhan from Nuabandha village of Badmaba block Cultivated Groundnut in 2 acre land by following our agromet services.

● **SUCCESS STORY:**

- A farmer named Mr. Abinash Balabantaray, Mulabasant, Mahanga, Dist-Cuttack, Odisha, ph no-9090816330 has cultivated 1.6 acre Rice last year for foundation seed business purpose. Due to forecast of rain during harvesting stage he has preharvested around 32qt Rice which was worth around Rs. 70,000/-.
- A farmer named Mr. Sunil Dhal, Alara, Narasinghpur block, Dist-Cuttack, Odisha, ph no-9861338075 has cultivated 10 acre Rice last year. Due to forecast of rain during harvesting stage he has preharvested around 60qt Rice which was worth around Rs. 1,10,000/-.
- A farmer named Mr. Asish Bhuyan, Laptuan, Mahanga, Dist-Cuttack, Odisha, ph no-9337280067 has cultivated 1 acre vegetables (tomato, brinjal and cauliflower) last year. Due to forecast of rain during harvesting stage he has preharvested all matured vegetables which was worth around Rs 20,000/-.



KVK BIRBHUM

DAMU of Birbhum KVK conducted two Farmers Awareness Programmes on Aug 26 and Nov 1, 2021 at KVK campus and Mohula block of Bolpur, Sriniketan respectively. 46 no. of farmers and farm women participated in the FAPs. During these programmes, introductory speech was given by Senior Scientist & Head and Nodal Officer (GKMS-DAMU) of the KVK. He addressed the farmers and farm women about DAMU. Followed by SMS (Plant Protection) of the KVK who told farmers about the relation between climate change and disease outbreak. Later the SMS (Agrometeorology) and Agromet Observer of the KVK told farmers about Agromet Advisory Bulletin and its usefulness. They also discussed about the Meghdoot and Damini mobile apps, their application and usefulness in day to day life of the farmers and every individual present in the programmes. An interaction session was also done with the farmers. Contact numbers of all the farmers and farm women are taken for dissemination of Agromet Advisory Bulletin through whatsapp group. 51 nos. of district and block level bulletins were published, one special bulletin was published on 2nd December, 2021 as warning for *JAWAD* cyclone over Birbhum district. These bulletins are disseminated through different whatsapp group for each block of the district (19 groups created so far for 19 blocks of Birbhum) and also to Reliance, IFFCO and DAESI whatsapp groups. Bulletins were also disseminated by mail to the following departments of the district: Deputy Director of Agriculture (Administration); Deputy Director of Horticulture (Administration); Deputy Director of Animal Resource Development; Assistant Director (Fishery), Directorate of Fisheries; Assistant Director of Agriculture (Admin) of 19 blocks; The Regional Meteorological Centre, Kolkata; GKMS ATARI Kolkata; AMFU Kharagpur; All India Radio (AIR), Sriniketan and DDM, NABARD, Birbhum. Besides these activities, one on station trial is also ongoing in the KVK by DAMU for rabi season of 2021-22 where the main objective is assessment of optimum planting times of cauliflower in lateritic soil of Birbhum district and shifting of planting dates earlier to improve yield.



KVK ANGUL

DAMU of Angul KVK conducted four Farmers Awareness Programmes (two on campus and two off campus) on Sep 15 and 24, Oct 25 and Dec 30, 2021. 60 nos. of farm women and farmers participated in these programmes. The SMS (Agromet) of KVK Angul visited Farmers' Field of villages Khairabereni and Pipalabahal of Chhendipada block on Sep 30, 2021. Group interaction with farmers of the villages of Chhendipada block was done by the SMS (Agromet) who also explained to the farmers about the importance of weather on crop production, animal husbandry and how weather based agro-advisory could be applicable to increase the efficiency of day to day agricultural activities and about the use and popularization of *Meghdoot* app. Around 30 farmers participated in the programme. Several farmer scientist interactions and workshop cum training programmes are conducted to spread awareness among farmers and farm women of the district. Besides these activities, one rice trial is also ongoing in the KVK by DAMU consisting five different varieties and four dates of planting for studying crop weather relationship as well as crop simulation studies. A total of 106 bilingual district level bulletins, 848 bilingual block level bulletins and some impact based forecasts for agriculture in view of cold wave warning, were disseminated to the farmers of the district through emails and whatsapp groups. In view of cyclone *JAWAD*, one special bulletin, a conference call with 200 farmers of the district along with Reliance Foundation on 2nd Dec, 2021 and post cyclone advisory was disseminated. Total 25 SMSs sent through KMA.



KVK BOLANGIR

DAMU of Bolangir KVK conducted three Farmers Awareness Programmes (two on campus and one off campus) on Sep 16, Nov 24 and Dec 9, 2021. 70 farmers and farm women participated in these FAPs. The SMS (Agromet) of KVK Bolangir visited Farmers' Field of Larkipali village Bolangir block, Jamuna village Muribahal block and Chalki village Muribahal block on Jul 1 and Aug 19, 2021. Interaction with 39 farmers of these villages was done by the SMS (Agromet) who also explained to the farmers about the importance of weather on crop production, animal husbandry and how weather based agro-advisory could be applicable to increase the efficiency of day to day agricultural activities and about the use and popularization of *Meghdoot* app. Several farmer scientist interactions and special programmes are conducted to spread awareness among farmers and farm women of the district. Besides these activities, one rice trial is also ongoing at KVK Bolangir instructional farm by DAMU consisting five different varieties and four dates of planting for studying crop weather relationship as well as crop simulation studies. A total of 106 bilingual bulletins were disseminated to the farmers of the district through emails and whatsapp groups and 12 SMSs sent through KMA.



KVK GAJAPATI

DAMU of Gajapati KVK conducted four FAPs, two at KVK campus and two at Engerda village Gumma block and Dambala village Rayagada block on Sep 28, Nov 23, Dec 13 and 22, 2021. 211 farmers participated in these programmes. Nine nos. of Field Visit was conducted by the SMS (Agromet) of KVK Gajapati, visiting farmers of villages Narayanpur (Mohana), Phatachanchada, R.Udayagiri, Religuda (Kashinagar), Sinising, Bastariguda, Luhangar, Souri, Nuagada and Jungjung on Aug 2, 5, 7 and 11, Sep 18 and Dec 30, 2021. Group and individual interaction with 111 farmers and farm women of these villages was done by the SMS (Agromet) who also explained to the farmers about the importance of DAMU, Agromet Advisory Bulletins and how weather based agro-advisory could be applicable to increase the efficiency of day to day agricultural activities and about the use and popularization of *Meghdoot* & *Damini* mobile apps. A total of 106 district level bulletins (English Advisory-53, Odia Advisory-53), 742 block level bulletins (English Advisory-371, Odia Advisory-371) and 19 special bulletins (in view of scanty rainfall situation, cyclones *GULAB* and *JAWAD*) were disseminated to the 19125 farmers of the district through SMSs, emails and whatsapp groups and 32 SMSs sent through KMA. Several demonstrations on CFLD (Pulses & Oilseeds), training programmes on seed production, celebration of special days and farmer scientist interactions are conducted for farmers and farm women of the district.



KVK GANJAM-I

DAMU of KVK Ganjam-1 conducted three FAPs and one training on Sep 7, Nov 17 & 23 and Dec 16, 2021 at Phullasarapalli village Aska block, Benakunda village Bhanjanagar block, Gamundi village Bhanjanagar block and Jagannath Prasad. A total of 130 farmers and farm women actively participated in the programme. In these programmes, SMS (Agromet) highlighted the importance of GKMS, role of weather forecasting and Agromet Advisory Services in agriculture, climatic variability, farming risks and management. To popularize the *Meghdoot* and *Damini* apps among the farmers, a brief introduction of its application was also discussed. The programmes ended with collecting contacts numbers of farmers for block-level farmer's whatsapp group. A total of 2438 block level Agromet Advisory bulletins (1219 in English and 1219 in Odia) were issued by the DAMU to 22 blocks of the district and disseminated to the farmers of the district through email, whatsapp and SMS. Total 18 nos. of SMSs sent.



KVK NAYAGARH

Farmers Awareness Programme (FAP) both online & offline were conducted by DAMU of KVK Nayagarh during 2021. The online awareness programme was conducted on “Soil Moisture Management in Crops” during Kharif 2021 where more than 50 farmers and farm women participated. During the programme the importance of moisture conservation and the methods to manage the kharif moisture/rainfall in different crops were thoroughly discussed by the Scientists of KVK. The offline Farmers Awareness Programme on “Climate Smart Agriculture” was organized at three villages of Nuagaon, Khandpara and Daspalla blocks of Nayagarh district with the participation of more than 50 farmers and farm women in each of the programme. During the programme farmers were made aware about the climate change, its reasons and its impact on agriculture, along with a discussion on importance of agro advisory bulletin and use of *Meghdoot* app for knowing the weather forecast was demonstrated. Farmers’ problems related to various crop disease and pest management were also discussed. SMS and Scientists of the KVK and Staff of Agriculture Department participated in these FAPs.



Prime Minister’s live telecast programme was held on 16.12.2021 on Zero Budget Natural Farming at KVK campus in presence of 65 participants. Hon’ble PM and Hon’ble Minister of Agriculture, Govt. of India addressed the public and farmers regarding Zero Budget Natural Farming. The farmers were made aware about the importance of Natural Farming and the profit they would get out of it. The effect of natural farming on the health of soil and environment was also discussed. A powerpoint presentation was visualized to the farmers to make them understand about different pest management methods involved in Zero Budget Natural Farming. Farmer-Scientist interaction was also held in which farmers’ queries were answered. The Senior Scientist & Head along with SMS (Agrometeorology) and Farm Manager of KVK Nayagarh were the resource persons in this programme.

KVK RAYAGADA

District Agromet Unit of KVK Rayagada conducted seven nos. of Farmers Awareness Programme on 28th September, 2021 at Pradhaniguda, 21st October, 2021 at Pandrajholi, 3rd November, 2021 at Chalkhamba, 29th October, 2021 at Bhaleri, 17th November, 2021 at Rupapadar, 20th November, 2021 at Dandaguda, 25th November, 2021 at Dandaguda. In these programmes SMS (Agrometeorology) highlighted the importance and use of *Meghdoot* app and GKMS for the services of farmers of the country as a whole, discussing with the farmers and farm women about the importance of weather parameters on farm activities and day to day life. The programmes ended with collecting contact numbers of farmers to add them in block-level farmers’ whatsapp group. 13 diagnostic field visits and post cyclonic condition of crop field visits were conducted by the SMS (Agromet) on Jul 5 & 28, Sep 16, 27, 29 & 30, Oct 4, 20 & 27, Nov 1, 15 & 22 and Dec 30, 2021 at villages Regeda, Podosingh, Chalkhamba, Podosingh, Khamapadar, Pradhaniguda, Pandrajholi, Bhaleri, Chalkhamba, Rupapadar, Dandaguda and Nalpanda Guda. 53 district level and 1166 block level Agromet Advisory bulletins (583 in English and 583 in Odia) and nine special bulletins were disseminated to the farmers of the district through email, whatsapp and SMS. Total 5 nos. of SMSs were sent. Besides these activities, one research trial on rice is also ongoing in the KVK by DAMU consisting five different varieties and four dates of sowing for studying crop weather relationship as well as crop simulation studies.



KVK BURDWAN

As per GKMS mandate, 1632 nos. of weather forecast based Agromet Advisory Bulletins of Purba Bardhaman district (1536 no. block level and 96 no. district level) were prepared both in English and Regional (Bengali) language by SMS (Agromet), DAMU, KVK Burdwan and disseminated through the institute website (KVK Burdwan), facebook page (4813 beneficiaries) and whatsapp group of KVK Burdwan (247 beneficiaries), input dealers and FPO's etc., to Principal Nodal Officer at ATARI-Kolkata, different state department offices (ADA offices of district) via emails, twitter and also using mobile application namely 'Meghdoot', a joint initiative of IMD and ICAR on every Tuesday and Friday during this time period. Meanwhile, 18 whatsapp groups of different blocks (Galsi-1, Galsi-2, Ausgram-2, Kalna-1, Ausgram-2, Kalna-2, Purbasthali-2, Monteswar, Raina-2, Jamalpur, Bhatar, Memari-1, Khandaghosh, Katwa-1, Burdwan-2, Ausgram-1) with 542 beneficiaries have been created and they are receiving the advisory bulletins on regular basis. Additionally, two special bulletins were issued on 10.08.2021 & 01.12.2021 addressing extreme weather events such as, enhanced rainfall activity for 3-4 days due to deep depression formed over Gangetic Bay of Bengal, which might cause massive damage to standing vegetables and Aman rice over the district. Three off campus (Galsi-1, Ausgram-2 and Ausgram-1 on 18.10.2021, 26.10.2021 & 17.12.2021 respectively) and four on campus Awareness cum Training programme with 104 and 120 nos. of farmers respectively, on "Introduction and role of Agroadvisory services at block levels" were conducted by DAMU Bardhaman unit during this period. In association with each Awareness Programme, a brief introduction on modern means of weather details and agromet advisory dissemination apps like *Mausam*, *Meghdoot* and *Damini* etc. was discussed and also popularized among the farmers at different blocks. Five nos. of lectures were integrated with different KVK programmes such as observation days like World Soil Day, Parthenium Week, Vigilance Awareness, Swachhta Saptaha etc. where, as resource person SMS (Agromet) discussed about the impact of climate change in present agriculture and the multidisciplinary nature of AAS bulletins in managing day to day farm operations and finally enhancing crop productivity. So far, three online webinars were organized in commemoration of 75th Independence Day i.e. "Azadi Ka Amrit Mahotsav" and almost 79 farmers virtually joined and shared their views regarding the utilities and further betterment of agromet advisory service in their district.



✿ SUCCESS STORY:

A progressive farmer from the Village-Kamra, Block-Monteswar of Purba Bardhaman District, Ph. No.-8927012729, named Joydeb Dey has cultivated pulse crops (green gram and black gram) in most of his land and vegetables (brinjal, onion and chilli) in few pockets. A significant weather system (Cyclonic circulation followed by Low pressure system) with enhanced thunderstorm and rainfall activities over the district had been forecasted from October 17-20, 2021. Few interventions like advance preparation of drainage channels, avoiding sowing, irrigation and spraying operations in standing vegetables were advised through bulletins during those days to save the standing crops and vegetables along with minimizing input wastage. Most pulse crops of the district were in harvesting stage, which were advised to harvest 3-4 days earlier to get at least 85% recovery in crop losses. He blindly followed the AAS bulletin of that week and harvested his pulses well in time. Later on, he congratulated SMS (Agromet) for providing regular timely information about weather conditions, update on extreme weather and also informed that he saved almost Rs.9000 for standing vegetable crops and approximately, Rs.3500-5000 for pulses which otherwise would be damaged entirely. Interventions to save seedbed of onion by covering with jute sticks in anticipation of enhanced rainfall activities warned through AAS bulletins was also done.



ANNUAL REVIEW WORKSHOP OF GRAMIN KRISHI MAUSAM SEWA (GKMS) OF ICAR-ATARI KOLKATA ORGANIZED

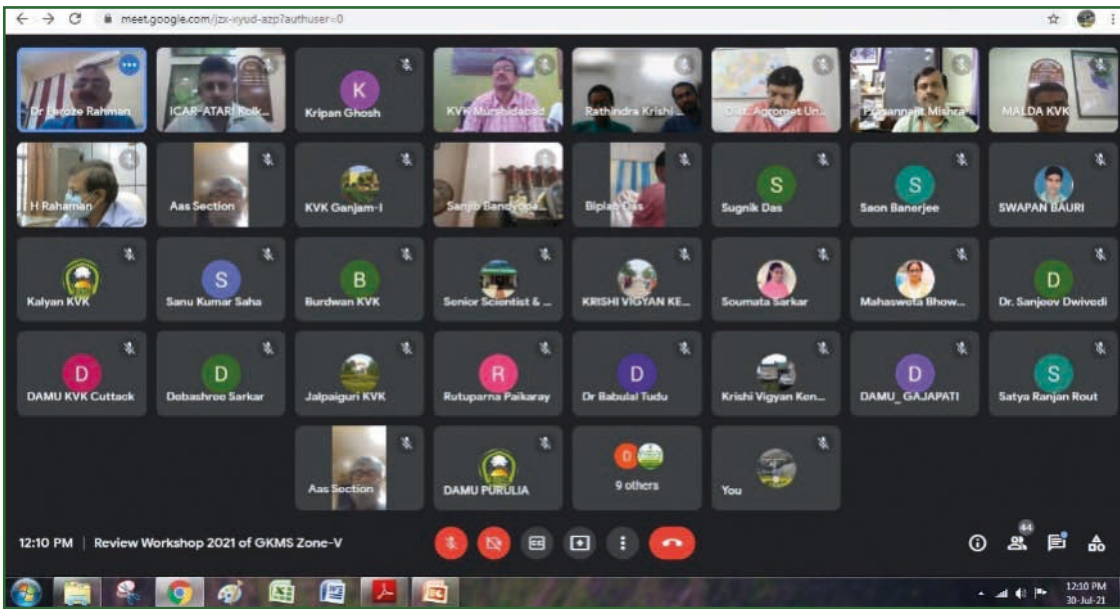
ICAR-Agricultural Technology Application Research Institute Kolkata organized the “Virtual Second Annual Zonal Review Workshop of Gramin Krishi Mausam Sewa (GKMS) consisting of the 24 KVKs in the states of Odisha and West Bengal” on 30th July, 2021.

Dr. K.K. Singh, Head, India Meteorological Department, New Delhi emphasized on financial module and functionalities of ICAR, IMD linkage and timely submission of SoE for timely release of funds. He praised the activities of DAMU and wished for better research and development to be undertaken under DAMU.

Dr. S.C. Bhan, IMD Pune in his address, emphasized on weather abnormalities like cyclones, monsoon abnormalities and minimizing weather-based risk issues, developing resource inventories. He urged upon the state line departments, KVKs and linkage will enhance better dissemination of the agro-advisory.

While his welcome address Dr. F.H. Rahman, Principal Nodal Officer, GKMS, ICAR-ATARI Kolkata, highlighted the year around activities and progress of the DAMU Unit of the KVKs, briefed about the salient achievements of the GKMS Scheme of the Zone.

Dr. S.K. Roy, Director, ICAR-ATARI, Kolkata outlined the main objective of the workshop.

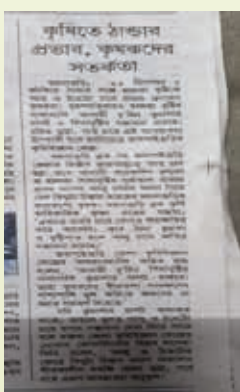


Dr. S. Bandyopadhyay, DDGM, RMC, Kolkata and Dr. K.K. Singh chaired the Technical Session where the Heads and SMSs of DAMU KVKs of West Bengal & Odisha presented their progress report of 2020-21.

Drs. Kripan Ghosh, R. Bala, Asha Latwal from IMD Pune and Drs. P. Mishra, OUAT, P.K Pal, UBKV, Saon Banerjee, BCKV, H.R. Biswas, MC Bhubaneswar and A. Khuntia, OUAT and other officials from RMC Kolkata and IMD New Delhi attended and interacted in the workshop.

Two technical bulletins - GKMS Newsletters of January and July, 2021 were released during the occasion.

NEWSPAPER COVERAGE





PUBLICATIONS DURING JULY - DECEMBER 2021

RESEARCH PAPERS

1. Jayashankar Pradhan, Rutuparna Paikaray, Dr. Anupama Baliarsingh, Ashutosh Nanda, Gourisankar Panigrahi and Dr. Amaresh Khuntia 2021, "Photothermal Use Efficiency Of Green Gram (*Vignaradiata* L.) In Relation To Different Sowing Windows and Varieties" accepted for International Conference on Climate Resilient Farming through multifaceted Production Strategies.
2. A Hoque, D Majumder, S Banerjee, M Ghosh, L Das. Assessing agrometeorological indices and physico-chemical attributes for ten blackgram cultivars under new alluvial zone of West Bengal. *Journal of Crop and Weed*. 2021; 17(2):87-92.
3. R Roy, D Majumder, S Das, P Bhowmik, BC Rudra, V Sarkar, A Mondal. (2021). Misuse of social media led to economic loss in poultry sector: A case in India during pandemic COVID-19. *Poultryline*, 21(7):13-15.
4. PK Kingra, R Kaur, D Majumder, S Singh, GS Buttar. Agricultural water use efficiency to adapt climate change in Indo-Gangetic plains of south-east Asia. *The Indian Journal of Agricultural Sciences*. 2021 Jun 1; 91(6).

BOOK CHAPTERS

1. Smartphone Apps - An Eminent ICT Tools for Agricultural Development & Agri-Information Dissemination, Authored by - Subrat Kumar Mahapatra & Jayashankar Pradhan. *Information & Communication Technology (ICT): A Catalyst to Transform Rural India (With Special Reference to Sustainable Rural Development)*, ISBN-978-93-80805-78-8 (Volume - 02), Page No.-03-12.
2. Akbar Hossain, Debjyoti Majumder, Shilpi Das, Apurbo Kumar Chaki, Mst. Tanjina Islam, Rajan Bhatt and Tofazzal Islam (2021) Prospects of Organic Agriculture in Food Quality and Safety, In book: *Organic Agriculture*

for Sustainable Development (Editors: Jeyabalan Sangeetha, Kasem Soyong, Devarajan Thangadurai, Abdel Rahman Mohammad Al-Tawaha) Edition: First, Chapter, AAP/CRC Press, USA

3. A Hossain, R Bhatt, S Sarkar, M Barman, D Majumder, S Saha, M Islam, S Maitra, RS Meena. Cost-Effective and Eco-Friendly Agricultural Technologies in Rice-Wheat Cropping Systems for Food and Environmental Security. In Sustainable Intensification for Agro-ecosystem Services and Management 2021 (pp. 69-96). Springer, Singapore.
4. A Hossain, M Islam, S Maitra, D Majumder, S Garai, M Mondal, A Ahmed, A Roy, M Skalicky, M Brestic, T Islam. Neglected and Underutilized Crop Species: Are They Future Smart Crops in Fighting Poverty, Hunger and Malnutrition Under Changing Climate? In Neglected and Underutilized Crops-Towards Nutritional Security and Sustainability 2021 (pp. 1-50). Springer, Singapore.

✿ POPULAR ARTICLES

1. S.K. Saha, S.M.A. Rahman, F.H. Rahman and S. Pramanik (2021) “Nara Porano: Poribesh Dushon ebong Somvabyo Protikar” in Krishi Jagran Bengali online Monthly Magazine (August issue).
2. S.K. Saha, S.M.A Rahman, S.Banerjee, F.H Rahman, M.S.Behera and G. Kar “Population dynamics of honey bees in climate resilient environment”. Indian Farming Journal (Communicated).

✿ RADIO/TELEVISION TALKS

1. SMS (Agromet), KVK Cuttack, delivered a radio talk on ‘Weather based disease and pest of Rice crop and their management’ broadcasted by AIR Cuttack in Krishi Sansar Programme on 7th September, 2021.
2. SMS (Agromet), KVK Cuttack, delivered a radio talk on ‘Pre and Post cyclone farm management practices based on impact of cyclone Jawad’ broadcasted by AIR Cuttack in Krishi Sansar Programme on 2nd December, 2021.
3. SMS (Agromet), KVK Jalpaiguri gave a news coverage to Uttarbanga Sangbad on break of monsoon & related management practices during transplanting of Aman rice on 8th August, 2021 subsequently telecasted in CCN news channel.
4. SMS (Agromet), KVK Jalpaiguri gave a news bite Uttarbanga Sangbad on western disturbance and associate weather activities on 29th December, 2021 at 6 PM in TV news and published in the newspaper to circulate agromet advisory to the farmers.

TRAININGS/HRD PROGRAMMES ATTENDED

1. SMS (Agromet), KVK Malda, attended five webinars and completed two short courses (7 and 10 days) by National Institutes viz. SAU’s, MANAGE, Hyderabad etc.
2. SMS (Agromet), KVK Jalpaiguri, participated in HRD organized by WBUAFS on “Scientific Agri-Horticulture practices to augment the income from small farming” from December 7-9, 2021.
3. SMS (Agromet), KVK Cuttack, attended Drought Monitoring Committee meeting which was organized by District Collectorate, Cuttack on 03 September, 2021.
4. SMS (Agromet), KVK Burdwan has successfully participated in the National Webinar on “Conservation of Agrobiodiversity for Ensuring Food and Nutritional Security in India” organized by Department of Genetics and Plant Breeding, Rajasthan College of Agriculture, Maharana Pratap University of Agriculture & Technology, Udaipur (Rajasthan) on Aug 18, 2021 under IDP-NAHEP (ICAR), New Delhi.
5. SMS (Agromet), KVK Burdwan has participated in the National Webinar on “Precision Techniques in Protected Cultivation” organized by AICRP on PEASEM, Department of Soil and Water Engineering, Department of Soil and Water Engineering, Directorate of Research, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan on July 29, 2021.

6. SMS (Agromet), KVK Burdwan has participated in the online training programme on “Heatwave preparedness and response” on Aug 3, 2021 organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with India Meteorological Department (IMD).
7. SMS (Agromet), KVK Burdwan has presented a paper in the International Symposium on Tropical Meteorology on “Changing Climate: Consequences & Challenges” organized by Indian Meteorological Society, Cochin chapter and hosted by Cochin University of Science and Technology, Kerala during November 23-26, 2021.
8. SMS (Agromet) along with Nodal officer of DAMU and Senior Scientist & Head, KVK Burdwan attended online meeting to “Discuss various matters/issues of GKMS (DAMU) at KVKs of Odisha & West Bengal” organized by ATARI Kolkata on 19.07.2021.
9. SMS (Agromet) along with Nodal officer of DAMU and Senior Scientist & Head, KVK Burdwan virtually attended and presented “Achievements report for the FY 2020-21” in Annual Review Workshop 2021, Gramin Krishi Mausam Sewa project organized by ATARI, Kolkata on 30.07.2021.
10. SMS (Agromet) along with Nodal officer of DAMU and Senior Scientist & Head, KVK Burdwan participated in the online meeting to “Discuss current status of different activities pertaining to dissemination under GKMS Scheme” organized by IMD, New Delhi on 10.11.2021.
11. SMS (Agromet), KVK Burdwan has attended online training on “Familiarization on real time dynamic Feedback under GKMS” on 17.07.2021 organized by IMD, New Delhi.
12. Nodal officer of DAMU and Senior Scientist & Head along with SMS (Agromet) of KVK Burdwan attended “Familiarisation Programme on GKMS activities for Nodal officers of DAMU KVKs” organized by IMD, Pune on 27.08.2021.
13. SMS (Agromet), KVK Burdwan has attended IMD’s Azadi Ka Amrit Mahotsav online Lecture Series 1. “Heat Wave Risk Reduction- issues and challenges” by Dr. Thiruppugazh, NDMA 2. “Radar Meteorology” by Dr. V. K. Anandan, ISRO on 22.08.2021.
14. SMS (Agromet) and Agromet Observer of all DAMU KVKs of Zone-V virtually participated in “Strategies for climate risk management and resilient farming”, “Interaction between DAMUs of Odisha and West Bengal and other senior ATARI officers”, “Use of Pest & Disease Forewarning Models and Inventories on significant weather patterns and related agromet advisories under GKMS”, “Real-time farmer’s feedback on weather based crop advisory under GKMS”, “Familiarization programme on GKMS activities for Agromet Observers of DAMUs” and “Validation of modelled pest status over selected States under GKMS scheme” on Sep 20-24, Jul 9, Aug 4 & 17, Nov 22 and Dec 16, 2021 respectively.

A PDF version of the Newsletter is also available at: <http://www.atarikolkata.org/publications>



GKMS Newsletter of ICAR-ATARI Kolkata

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