



Agricultural Meteorology Division
India Meteorological Department
Ministry of Earth Sciences

ग्रामीण कृषि मौसम सेवा GKMS-News

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1. National Activities

Stakeholders Meeting of Dissemination Strategy for Marine and weather services



Stakeholders Meeting of Dissemination Strategy for Marine and Weather Services of Ministry of Earth Sciences (MoES) was organised at Indian National Centre for Ocean Information Services (INCOIS), Hyderabad on 28th September 2016 to discuss and prepare a strategy plan for the dissemination of Agromet Advisory Services and Ocean Information Services to every beneficiary stakeholder in the country. Dignitaries like Dr. M. Rajeevan, Secretary, MoES, New Delhi, Dr. K. J. Ramesh, DGM, IMD, New Delhi, Dr. S.S.C. Shenoi, Director, INCOIS and stakeholders from various Central and State Government Departments and private companies participated in the meeting. Important deliberations and useful recommendations were made to prepare the road map on dissemination to 94 million farm household and all fisherman in the country.

Meeting of the “Working Groups in implementation of Agromet Advisory Services” under Gramin Krishi Mausam Sewa (GKMS)” on 19th July 2016



Agricultural Meteorology Division, India Meteorological Department (IMD) Pune organized meeting of the “Working Groups in implementation of Agromet Advisory Services” under Gramin Krishi Mausam Sewa (GKMS)” on 19th July 2016 at Yashwantrao Chavan Academy of Development Administration (YASHADA), Raj Bhavan Complex, Baner Road, Pune. The main objectives of the meeting was to apprise the present status of mandated works and plans for implementation of various activities under GKMS project like preparation, quality, dissemination and popularization of Agromet Advisories, capacity

building, feedback and economic assessment assigned to the different Working Groups (WGs) formed during the 10th Annual Review Meeting (ARM) of GKMS held at UAS, Dharwad during 23-25 November 2015. In depth discussion was made among the Working Group members and ultimately prepared the actionable recommendation for its implementation to strengthen the activities under GKMS.

Meeting on “Operationalization of Block Level Weather Forecast and Agromet Advisories” on 20th July 2016



Agricultural Meteorology Division, IMD organized one-day meeting on “Operationalization of Block Level Weather Forecast and Agromet Advisories” on 20th July 2016 at YASHADA, Raj Bhavan Complex, Baner Road, Pune. During the meeting action points for Operationalization of Block level Advisory in the country, generation of high resolution accurate weather forecast and Agromet Advisories with financial and administrative aspects for implementing block level AAS, generation of skill charts for all the districts need to be prepared for various parameters

as a guide for value addition of block level weather forecast, automation of Agromet Advisories preparation with display of observed and forecast weather data for the blocks were discussed. In addition to immediate requirements of setting up of DAMUs, generation of high resolution accurate weather forecast and Agromet Advisories with financial and administrative aspects for implementing block level AAS, useful recommendations have emerged from the discussion in the meeting.

2. Other Meetings under GKMS

- ◆ Meeting of the High level Project Advisory and Monitoring Committee (PAMC) to evaluate and monitor the progress of GKMS scheme to improve the quality of Agromet Advisory Services for the farming community in the country at Information System and Service Division (ISSD), Conference Room, Mausam Bhavan, IMD, New Delhi on 29th July 2016.
- ◆ “State Level Review Meeting” of GKMS and Regional Review Meeting (RRM) of Forecasting Agriculture Output Using Space, Agrometeorology and Land Based Observations (FASAL) Project for East Region at Bidhan Chandra Krishi Viswavidyalaya (BCKV), Kalyani, West Bengal during 1st -2nd August 2016.



3. Awareness Programmes

Farmer Awareness Programme (FAP)



AMFU, Gossaigaon, Assam organised FAP on 29th September 2016 on “Role of weather data in Agriculture”. Farmers were informed regarding importance

of weather data in agriculture. Officers and farmers also visited Agrometeorological Observatory at the AMFU.

Dr. S. K. Paul, Nodal officer of GKMS Unit, AMFU, Gossaigaon attended Soil health card distribution programme in three different KVK's namely Chirang, Bongaigaon and Barpeta.



AMFU, Sonitpur, Assam, organised FAP on “Agromet Advisory Services and its importance in Agriculture” on 4th July 2016 at Bamuni Pothar village of Biswanath district.

Dr. Prasanta Neog, Nodal Officer of GKMS Unit, highlighted the importance of Agromet Advisory Services in improving agricultural production in terms of quality and quantity under changing climatic environment. He also discussed about importance of weather information and the use of weather forecast for managing weather

aberration as well as manipulation of agricultural practices on the basis of weather forecast on real time basis with some of the success stories of the AMFU. A field visit was also made during the programme.



AMFU, Bengaluru, Karnataka organised five FAPs on “Impact of climate change on Agriculture” on 29th August 2016, 30th August 2016, 6th, 9th & 15th September 2016 to

informed farmers about the climate change adaptation and mitigation for climate resilient agriculture. Farmers made aware about quantity of rainfall under pre-monsoon, monsoon and north east monsoon and their distribution, recent trends and shifts in rainfall. Also created awareness on the climate resilient systems like water harvesting and recycling on watershed approach, drought proofing through agri-horticulture and dry land method systems.



AMFU, Malkangiri, Odisha organised two FAPs on 17th August 2016 at MV 3, block. Malkangiri, dist. Malkangiri and other on 22nd August

2016 at Dudimetla, block: Kalimela, dist: Malkangiri on "Weather based Agromet Advisory Services". Official informed about significance of weather forecasting in agriculture and weather related pest appearances in major crops and its management. They also collected mobile no of the farmers and registered in mKisan portal and discussed with farmers regarding present crop condition and their problem.



AMFU, Targhadia, Gujarat

organized three FAPs at Jepur village of Morbi taluka on 3rd September 2016; at Vavadi village of Kalawad taluka of Jamnagar district

on 9th September 2016 and at Anida (Vachhara) village of Kotda Sangani taluka of Rajkot district on 16th September 2016. During the programme, Technical officer of GKMS Unit, Prof. V. D. Vora highlighted the different activities under GKMS project, SMS service and Agromet advisory bulletin. He also informed impact of day to day weather condition in crop production and impact of different weather parameters on crop growth and infestation of pest-diseases in different crops. Other subject experts also explained the farmers about importance of soil analysis and integrated nutrient management in crop production, management of soil health, pests and diseases.



AMFU, Bidar, Karnataka

organized two FAPs on "Impact of Climate Change on Agriculture" at Agricultural Research Station, Janawad, Bidar on

22nd August 2016 and other at Nagura, Bhalki, Bidar on 29th September 2016 to create the awareness among the farming community on climate change and its impact on Agriculture, Agromet Advisories and their importance in daily agricultural activities.

Folder in Kannada language entitled "Bidar Jilleya Pramuka Bellegalli Bara Nirvahane" (Drought Management in Major Corps of Bidar District) have been released by Dr. S.A. Patil, Former Vice Chancellor, University of Agricultural Sciences, Dharwad. Dr. C. R. Konda, Professor and Head (GPB) & Nodal Officer, explained the importance in selection of crops and crop varieties for changing climate. Dr. S. P. Dineshkumar, Technical Officer provided information on how to get registered in mKisan portal for getting the Agromet Advisories in the form of SMS.



AMFU, New Delhi organised FAP at Basi village of district Bagpath, NCR Delhi on 28th September, 2016. Expert from IARI and IMD informed about weather based

Agromet Advisory Service. Suggestion regarding crop production in vegetables, varieties suitable for the area, seed rate, spacing and other modern technology were also given for reducing input cost and obtaining optimum yield.



AMFU, Dantiwada, Gujarat

organized two FAPs on "Weather Forecasting and Agriculture planning in *Kharif* crop" on 20th July, 2016 at village Nilpur,

Dantiwada and other on 26th August, 2016 on "Weather Forecasting and Agriculture planning in *Kharif* Groundnut". Shri. J. G. Patel, Associate Professor and Nodal Officer of GKMS Unit informed farmers about importance of weather forecasting in agriculture, activities carried out in GKMS, crop planning based on weather and climatic parameters and pest and disease management in field crops on weather based forecasting. Dr. J. C. Patel, Professor & Head, Agronomy Department, CPCA, Sardarkrushinagar advised the

farmers about control measures for leaf spot and sucking pest in groundnut. He also pointed out weather based agricultural operations in *Kharif* crop. Shri. A. I. Desai, Technical Officer of GKMS Unit advised farmers to register in mkisan portal to update information for agricultural practices of different crops.

Field visits



AMFU, Kakdwip, West Bengal made a field visit and farmers meet on 23rd and 29th August and 12th and 25th September regarding

agriculture, horticulture and fishery. Scientists and farmers discussed about pests & diseases of horticultural crops and pond management for fishery.



AMFU, Kalimpong, West Bengal made a field visit at Dairy Gaon, Sitong, Kurseong, Darjeeling 1st September 2016. Scientists

visited agricultural fields and observed field condition of different crops like large cardamom, ginger, mandarin orange, rice etc. Farmers were informed about improvement of crop cultivation practises of different crops with their management, Agromet Advisory Service bulletins and its importance for day to day crop cultivation.

AMFU, Solan, Himachal Pradesh made two diagnostic field visits at Dangri Panchayat, Bertivillage in district Solanon 19th July and 27th September, 2016 to study relation between weather and attack of insect pest/ fungal and bacterial diseases on the tomato and capsicum fields. Preventive measures against bacterial infections in tomato crop were also given.



AMFU, Majhian, West Bengal made four field visits. First on 5th September to rice field to study sheath blight of rice; second on 6th September to banana orchard to study nutrient deficiency & scaling beetle of banana; third on 19th September to field and fourth visit

on 22nd September to rain gauge site. Information was given about "How to keep the rain gauge in good condition and their maintenance" and regarding farmer's registration in mkisan portal.

AMFU, Kharagpur, West Bengal made three field visits: first to village-Benapur, block. Kharagpur-2 on 13th July, second to village Barabendya, dist. Purulia on 8th August and third to village Keshpur, block. Keshpur on 29th August 2016 to study the standing field crops, Officers of GKMS Unit distributed Soil analysis report and demonstrated the rain gauge installation and rainfall measurement .



AMFU, Bidar, Karnataka made a field visit at Halihiparga and Kosam villages of Bhalki, Bidar 29th September 2016 to create awareness in farmers regarding Crop Pest and Disease management with changing climate.



AMFU, New Delhi organised Kisan Gosthi and farmer field visit at Kannoja, Piplehda village of district Ghaziabad on 24th August, 2016 and

on 30th September at Samaypur, Kosaliya village of district Ghaziabad under MGMG programme.

Other Awareness Programmes



AMFU, Dapoli, Maharashtra Department of Agronomy, College of Agriculture, Dapoli, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli,

Maharashtra celebrated ESSO–Ministry of Earth Sciences 10th foundation day on 27th July 2016 to 3rd August 2016. Dr. D.N. Jagtap, Nodal officer of GKMS Unit, Prof. V. A. Rajemahadik, Technical officer of GKMS Unit, Shri. V.V. Zagade, Observer gave detailed information of observatory and instruments used to measure various parameters to participants. Information related to experimental fields also given to the students.



AMFU, Jaipur, Rajasthan participated in an interactive meeting with Line

Department and other Stake holders to strengthen and improve GKMS in Rajasthan on 8th September 2016. Also Dr. Rani Saxena, Technical officer of GKMS Unit, delivered TV talk on 14th September 2016 on “Importance of weather forecast based Agromet Advisory Services”



AMFU, Dharwad, Karnataka participated in “Krishi mela 2016” held during 24th-27th September 2016 at University of Agriculture Sciences,

Dharwad. “Havaamaana-Krishi” app is launched from UAS, Dharwad during the programme by Shri Krishna-Bairegouda, Hon’le Minister for Agriculture Karnataka State in the presence of Shri Vinay Kulakarni Hon’le Minister for Mines and Geology Karnataka State, Hon’le Vice Chancellor Dr. D.P. Biradar UAS, Dharwad and Dr. H. Venkatesh, PNO, UAS, Dharwad. The app provides information on today’s weather condition, forecast for

2-3 days and crop advisories for major crops of seven districts which are coming under UAS Dharwad namely Dharwad, Belagavi, Haveri, Uttara Kannada, Vijayapur, Bagalkot and Gadag districts. The information is up loading on daily bases.

AMFU, Targhadia, Gujarat Main Dry Farming Research Station, Junagadh Agricultural University, **Gujarat** participated in Krishi Pradarshan organized by Ministry of Agriculture, Govt. of Gujarat under celebration of independence day at Morbi on 14th August 2016.



AMFU, Jagtial, Telangana Zonal participated in “Research Extension Advisory (ZREAC) Programme of Northern Telangana Zone” at

Karimnagar, Telangana on 20th September 2016. During the programme “Weather based agro advisories” (Vathavarana Adaritha Vyvasaya Suchanalu) Boucher was released. Dr. S. Laxman, Nodal Officer of GKMS Unit explained GKMS activities.



Dr. Pralhad Jaybhaye, Principal Nodal Officer & Shri. Pramod Shinde, Technical Officer, GKMS Unit, **AMFU Parbhani, Maharashtra** were felicitated by presenting memento by Reliance Foundation by the hands of Dr. B. B. Bhosale, Director Extension Education, VNMKV, Parbhani for significant contribution in Agriculture and Rural Development through GKMS during Partners Meet programme on 28th July 2016 organized by Reliance Foundation.

4. Meeting/Workshop/ Seminar attended by Officers of IMD and AMFUs

- ◆ Dr. N. Chattopadhyay, DDGM (Agrimet), Shri R. Balasubramanian, Scientist 'D' and Shri N. P. Kulkarni, Scientist 'B' attended a meeting with Dr. Vikas Deshmukh, Commissioner of Agriculture, Govt. Of Maharashtra at Central Building, Pune regarding collaboration of IMD with State Agricultural Department for effective dissemination of Agromet Advisories at block level and farmers registration on 24th August 2016.
- ◆ Dr. N. Chattopadhyay, DDGM (Agrimet), Shri R. Balasubramanium, Scientist 'D' and Shri. P.V. Kamble, S.A participated discussion with Dr. Sanjay Kumar Dalvi, Director of Students Welfare and Co-ordinator, National Service Scheme (NSS) on creating awareness of Agromet Advisories in villages through students of NSS held at Agrimet Division, Pune on 26th August 2016.
- ◆ Shri R. Balasubramanian, Scientist 'D' attended meeting on "Block level contingency planning for Maharashtra" organised by CCKN-IA, Pune at Hotel Pride, Pune on 21st July 2016.
- ◆ Shri S. S. Mairal, AM II attended one day seminar of Watershed Organization Trust (WOTR) on "Vikaspedia" jointly organized by Centre for Development of Advanced Computing (C-DAC) and Watershed Organization Trust (WOTR) at YASHADA, Pune on 21st July 2016.
- ◆ Shri S. Sudevan, Scientist 'E', Meteorological Centre, Thiruvananthapuram, Kerala participated in the workshop conducted by National Institute of Agricultural Extension Management (MANAGE), Hyderabad under the Ministry of Agriculture & Cooperation in collaboration with SAMETI, Trivandrum, on 4th August, 2016 and delivered a lecture on "AGROMET Advisory Services and Fisheries warning- usage and benefit for Kerala Farmers".

5. Training

- ◆ Dr. K.K. Singh, Head, Agromet Services & Scientist-F, IMD, New Delhi participated in following training programme on
 - "Hands on practice Course on Modelling- Cum- Climate risk Management" during 23-29 July 2016 on Department of Agricultural Meteorology Orissa University of Agriculture and Technology, Odisha
 - "CRM training Programme" during 16-20 August 2016 at Professor Jayashankar Telangana State Agricultural University (PJTSAU) Hyderabad.
 - "Climate risk management tools development" during 19-25 September 2016 at Rajmata Vijayaraje Scindia Krishi VishwaVidyalaya College of Agriculture, Gwalior, Madhya Pradesh. Operational Techniques for combining Extended & Seasonal Forecast And Crop Model in climate Risk management in Agriculture.
- ◆ Shri Himangshu Das, Technical Officer of GKMS Unit AMFU Malkangiri, Odisha attended seven days short course training programme on "Hands on practice course on Modelling-cum-climate risk management" during 23-29 July, 2016 held at the Dept. of Agril. Meteorology, OUAT, Bhubaneswar, Odisha.
- ◆ AMFU, Targhadia, Main Dry Farming Research Station, Junagadh Agricultural University, Gujarat participated in Women training programme on agriculture under celebration of women empowerment week organized by KVK, Targhadia on 6th August, 2016. Shri V. D. Vora, Technical Officer, GKMS unit informed about the activities of GKMS.
- ◆ AMFU, Kharagpur, West Bengal, Rajesh Kumar Srivastav, Technical Officer attended one week training programme "Handson practices on Simulation Modelling-cum-climate risk management in Agriculture" during 23-29 July 2016 at OUAT, Bhubaneswar.

- ◆ Prof. V. D. Vora Technical officer of GKMS Unit, AMFU, Targhadia, Gujarat participated in Farmers training programme organized under Integrated Watershed Management Programme by GSWMA at Biladi village of Gondaltaluka and at Jasapar village of Jasdantaluka of Rajkot district on 11 and 12, September 2016, respectively. In both the programmes, 250 farmers attended the training programme. Information on different activities of GKMS project and importance of planning and management in agricultural production were given.
- ◆ AMFU, Raipur, Chhattisgarh, participated in State level training programme during 7-9 September, 2016 by the Department of Agrometeorology for Nodal Officers GKMS and Meteorological observers of different centers where meteorological observatory is installed or under process of installation.
- ◆ Dr. R. Bhagawati, Joint Director, ICAR Basar, Nodal Officer and Shri K. Bhagawati, Technical Officer of GKMS Unit, Basar, Arunachal Pradesh attended the 3 days training programme conducted under NICRA Research Project and delivered lecture on Climate Change Scenario of Arunachal Pradesh and role of Advisory Services of GKMS. Dr. R. Bhagawati gave a brief overview of need of climate resilient technologies in the current era of climate change and urged farmers to adopt new technologies to adapt with the changing environment. Shri K. Bhagawati also gave a summary on trend and impact of current climate change on socio-economic life of people of Arunachal Pradesh. He also briefed on the uniqueness of current climate change and role of SMS service of GKMS in alleviating its impact. All the participants get registered for the SMS service of GKMS.

6. Lectures

- ◆ Shri Samik Chowdhury, Technical Officer of GKMS Unit, AMFU, Kolasib, Mizoram participated in three days training programme on "Livelihood improvement of Tribal farmers of Mizoram through Cultivation of high yielding Varieties of rice and maize" under TSP and delivered a lecture on "Weather based agro advisory services to increases the farming resiliency of farmers in Mamit district of Mizoram" during 9-11 August 2016.
- ◆ Dr Ananta Vashisth, Nodal Officer of GKMS Unit, New Delhi gave Invited Lecture on Agromet Advisory for farmers in a training programme on "Information communication Technology Mediated Agricultural Extension" during 02-22 August, 2016 organized by Division of Agricultural Extension, on 6th August 2016.

7. Visitors

- ◆ Exposure visit for thirteen trainees from Nepal was organized at Agrimet Division, IMD, Pune during 11-12 July 2016. A visit was also organized at Central Agromet Meteorological Observatory (CAGMO) and National Informatics Centre (NIC), Pune. Lectures were delivered and participants interacted with the Scientists.
- ◆ Four Officers from Commissionerate, Watershed Development and Soil Conservation Department, Rajasthan Agricultural Competitiveness Project (RACP), Jaipur, Rajasthan visited and interacted with officers of the Division for collection of weather data through AWS and Generation of Agriculture Advisories for the Watershed areas of Rajasthan at Agrimet Division, Pune on 29th August 2016.
- ◆ Officials from Centre for Rural Welfare, Nagpur visited Agrimet Division on 31st August 2016 for acknowledging the work done in Agromet Advisories. They also proposed to provide training to farmers in suicide prone areas of Vidarbha.
- ◆ Dr. Y. S. Ramkrishna, Ex. Director of CRIDA, Hyderabad and Dr. V. G. Maniyar, Ex. Professor & Head, Dept. of Agril. Meteorology, VNMKV, Parbhani visited GraminKrishiMausamSewa Project on 16th July 2016 and discussed with Technical Officer Shri. P. B. Shinde about dissemination of Agro Advisory Bulletin (AAB) as well as working of GKMS project.

8. Publication

- ◆ A chapter on “Spatial and Temporal Scales of SPI for Better Drought Monitoring” by R. Balasubramanian and P. Guhathakurta has been published in the book “Natural Resource Management in Arid and Semi-Arid Ecosystems for Climate Resilient Agriculture” by Soil Conservation Society of India, New Delhi during July 2016
- ◆ V. D. Vora, P. D. Vekariya, D. S. Hirpara, K. D. Rakholiya, G. S. Sutaria and K. N. Akbari (2016) : Influence of integrated nutrient management on growth and yield of Bt cotton (*Gossypiumhirsutum* L.) under dry farming condition. Indian Journal of Dry land Agricultural Research and Development 2016, 31(1) :25-29.
- ◆ M. M. Talpada, G. B. Vekariya, G.S. Sutaria and V. D. Vora (2016).Response of Forage Sorghum (cv. CSV 21F) to Seed rate and Fertilizer Level. Indian Journal of Dry land Agricultural Research and Development 2016, 31(1): 77-82.
- ◆ AMFU, Raipur, Chhattisgarh, published articles for the farmers of the state in Hindi/ Regional language magazine (Krishak Shrinkhla) during monsoon season.

9. Upcoming events

- ◆ 10th Annual Review Meeting of GKMS and 7th ARM of FASAL at OUAT, Bhubaneswar during 14-17 December 2016 (Specific dates: 10th ARM on GKMS – 14th - 16th December 2016 FN and 7th ARM on FASAL – 16th-17th December 2016 AN).
- ◆ 7thAgrovision-2016 from 11th November to the 14th November 2016 at the ReshimBagh Ground in Nagpur, India. (more information : <http://www.agrovisionindia.in/>).
- ◆ Krishithon - 2016, The biggest international agriculture trade fair is organized by Media Exhibitors Pvt. Ltd during 24-28 November 2016 at Thakkar Dome, Near ABB Circle, Trimbak Road, Nashik, Maharashtra. (more information : <http://tradeshows.tradeindia.com/krishithon/>).
- ◆ Western Maharashtra's Biggest International Agri Expo KRUSHI- 2017 on 13-16 January 2017 Shanti Niketan Ground, Opp. Vasantdada Sugar Factory, Sangli- Madhavnagar road, Sangli, Maharashtra.
- ◆ 4th Assam International Agri Horti Show 2017 from 6th to 9th January 2017 at Assam , The Assam International Agri-Horti Show is the Exposition in Assam for Innovation and Inspiration in Agriculture, Horticulture, Floriculture, Animal Husbandry, Food Processing and allied sectors organized by Department of Agriculture. (more information : <http://www.tradeshows.tradeindia.com/assam-agri-horti/>).
- ◆ Key Green Pvt. Ltd is organizing AGRI FEST 2016 for the fifth consecutive year. It is an International exhibition and excellent platform for exploring a highly potential region untapped so far with new business opportunities in the emerging areas of agriculture, dairy, poultry, food processing rightly supported by the policies and schemes of the central & state governments. (more information: <http://www.tradeindia.com/TradeShows/Agriculture/page-7.html>).

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