

**Roles and Responsibilities of Technical Officer (TO)/SMS (Agrometeorology) under
Gramin Krishi Mausam Sewa (GKMS) scheme**

Gramin Krishi Mausam Sewa (GKMS) is the flagship programme of Govt. of India for weather related services to the farmers aiding in decision making on day-to-day agricultural operations. The scheme is extended to block level to address weather needs of farmers at micro-level. This is a joint effort of IMD and ICAR with multi-organisational collaboration to implement various components. As Technical Officer (TO)/SMS (Agrometeorology) has the pivotal role in association with other Experts at the AMFUs/KVKs to implement the service, his roles and responsibilities are given below:

1. Weather Observations

- 1.1. Observations on Districtwise Rainfall Monitoring Scheme (DRMS rainfall and gridded rainfall with the priority to DRMS) and other available weather parameters will be provided to AMFUs/KVKs through web-service on daily basis. AMFUs/KVKs will identify and verify list of blocks for each DRMS station in their respective district.
- 1.2. Ensure linkage with the block / District level Offices of State Government to collect weather / rainfall observations of district network at block level on daily basis. All the TO/SMS (Agromet) at AMFUs/KVKs will coordinate with state offices for the extension services at block level.
- 1.3. Use of long term meteorological data (to be made available to the AMFUs/KVKs by IMD) for the blocks in all meteorological applications and Agromet Advisory Services (AAS) bulletin preparation under GKMS.
- 1.4. Use of Agro-AWS data (to be installed in due course) in block AAS bulletin preparation. Observations on occurrence of extreme weather events, viz. hail, fog, frost etc. and damage on agriculture to be reported on daily basis. IMD will provide format and method to record observations on occurrence of extreme weather events. SOP will be provided by IMD for filling the online MMR.
- 1.5. Record gravimetric observation on soil moisture at specified depths up to 1 meter (as per Agro-AWS soil moisture depths). Compare manual soil moisture observations with Agro-AWS soil moisture observations. Deviations, if any, need to be noted and rectified immediately.
- 1.6. Data set, once received at AMFUs/DAMUs (KVKs) will be stored in structured format for further processing and analysis for their use in preparation of advisories. The stored data will be used for forecast verification like Short range forecast etc. TO/SMS (Agromet) shall collect crop, pest & disease observations for his/her own district and supply them to IMD for archival, analysis, product development applications and use in bulletin. In this regard a standard format will jointly be prepared by IMD, ICAR and respective DAMUs/AMFUs.
- 1.7. Compare block level weather data observed through Agro-AWS with district met data (available from IMD websites). A weekly report generation in a prescribed format provided by IMD.
- 1.8. General upkeep and maintenance of Agro-AWS / observatory, working of all sensors and timely reporting and use of met data. Training will be imparted for maintenance of

AWS at the time of installation. TO/SMS (Agromet) will communicate to IMD about impaired sensors for further action.

- 1.9. Guiding Observer to perform these tasks from time to time.
- 1.10. Ensure proper execution of Annual Maintenance Contract of Agro-AWS, as per the terms of installation by the vendor with intimation to IMD. Timely rectification of defects of Agro-AWS.

2. Weather Forecasts and Climate Prediction

- 2.1. Block level weather forecast will be provided to AMFUs/DAMUs through web service on every Tuesday and Friday. The AMFUs/DAMUs will access the forecast by 12:30 pm.
- 2.2. TO/SMS (Agromet) needs to visit IMD website daily to watch cloud imagery (Satellite imagery), RADAR, all India weather forecast (particularly Mid-Day) and warning for extreme weather events, and also nowcast. In event of discrepancy found in the weather forecast supplied by IMD, SMS shall inform the respective RMCs/MCs for prediction alteration. A whatsapp group must be created to promote the above-mentioned goals by including members of AMFUs/DAMU, RMCs/MCs Pune and ATARI etc. And likewise another whatsapp to be created for dissemination of the advisory.
- 2.3. Forecast verification at block level format will be provided by IMD.
- 2.4. Undertake verification of block level weather forecast and district level forecast available at Agromet DSS portal with observed data for all available data and compare block level weather forecast with quantitative medium range district level weather forecast. Any major differences may be highlighted and discussed with forecasters at respective RMC/MCs. Format for verification, as designed by IMD, will be provided and needs to be followed.
- 2.5. Maintain repository of block level forecast issued for all blocks.
- 2.6. Submit seasonal verification report in a prescribed format given by IMD.

3. Preparation of block level and district AAS Bulletins

- 3.1. TO/SMS (Agromet) will be facilitator/ convenor to arrange the meeting of expert panel under chairmanship of PC/PNO/NO consisting of all TO/SMS (Agromet) at AMFUs/KVKs, DAO and other extension agencies in the district. He will ensure the availability of all the ingredients required in AAS bulletin generation.
- 3.2. Meeting of Expert Panel on Tuesday and Friday by 12.30 am for advisory generation. SOP for advisory preparation will be provided by IMD.
- 3.3. Dynamic information on crop state and stage within the district should be available at the time of advisory preparation and any other authentic source. Real time pests and disease incidences in the blocks need to be obtained and considered in advisories by 3pm.
- 3.4. Use of various agromet products available in IMD website for agromet advisories.
- 3.5. Availability and use of contingency measures for advisories during inclement weather.
- 3.6. Preparation of district/block level agromet advisory bulletins specific to crops, horticulture, livestock, poultry, fisheries etc.

- 3.7. Use Agromet-DSS software of IMD for the preparation of AAS bulletins for all the blocks in quicker succession. Use of other relevant software/ tools available/ developed in consultation with IMD to improve quality of bulletins.
- 3.8. Generation of short messages service (SMS) specific to different blocks.
- 3.9. Bulletins prepared and issued by the AMFUs/KVKs may be compared and ascertained with nearby KVKs/AMFUs with the consultation as and when necessary, if the crops and climate are similar in a region. In case of sudden change in weather, not accounted in agromet advisory issued on Tuesday and Friday, SMS will issue alerts/warning and advisories through mkisan portal of DAC&FW.

4. Outreach and Dissemination of AAS Bulletins

- 4.1. Linkage with all concerned authorities, Agromet Field Unit (AMFUs), Meteorological Centre of IMD in State capital, district and block level agricultural officers, eMedia, local newspaper, FPO, NGOs operating for farmers etc. Detail list will be prepared by SMS (Agromet).
- 4.2. Push SMS through portal mKisan and other govt portal, private companies working for farmers, NGOs, Extension channel of State Govt at district and block level up to village/ panchayat level.
- 4.3. Uploading of the Agromet bulletin on KVK/ ICAR/ IMD website.
- 4.4. Use of mobile Apps like Meghdoot etc., and other relevant social media.
- 4.5. Other means of broadcasting through AIR DD newspaper, local TV cable network, CSCs etc.
- 4.6. AMFUs/DAMUs shall conduct Farmer Awareness Programmes (FAP) on weather and climate awareness.
- 4.7. Display contact details of all concerned personnel in AMFUs/DAMUs for the farmers.
- 4.8. Collect and update farmers' database village wise for wider outreach.
- 4.9. TO/SMS (Agromet) and Observer shall have interaction with farmers, farmers' groups etc. for awareness.
- 4.10. Collection of feedback from the farmers on usefulness and further requirements from the service in a desired format provided by IMD. Systematic analysis of feedback and communication to IMD for improving the service. Success stories needs to be compiled.
- 4.11. Block level Whatsapp group preparation with the target to over all the villages covered under block is required to be created by all the units and update the information of Agromet DSS

5. Research and Development Activity

- 5.1. TO/SMS (Agromet) shall undertake R&D for operational use in AAS bulletin preparation.
- 5.2. Collection of data viz. weather, soil, crop, pest & disease, at district/ block level for the development of Crop weather calendar for its use in automation of advisory bulletin generation in a desired format provided by IMD.

6. Others

- 6.1. Capacity Building
 - 6.1.1. Nodal Officer at existing Agro-Met Field Unit (AMFUs) will be mentor for all DAMUs in its agro-climatic zone for weather based AAS bulletin preparation and dissemination.

- 6.1.2. SMS (Agromet) will receive the short term training on “Preparation and dissemination of Agromet Advisories at Block level under Gramin Krishi Mausam Seva (GKMS) scheme”.
- 6.1.3. After the training received, SMS (Agromet) will work for 2 weeks at AMFU under mentorship of Nodal Officer to prepare district and block level advisory and development of agromet database.
- 6.1.4. Further, agromet advisory bulletins prepared by SMS (Agromet) with help of Expert Panel at KVKs will be scrutinised by AMFUs for ensuring its quality.
- 6.1.5. Thereafter, DAMUs can prepare and disseminate the bulletin operationally to all types of beneficiaries including SMS through mKisan portal.
- 6.2. Liaison with all concerned institutes and agencies in the district / region / state for rendering block level AAS.
- 6.3. AMFUs/DAMUs will procure the soil moisture equipment viz. Augur etc. (for gravimetric measurement) and Handheld soil moisture instrument.
- 6.4. Preparation of Annual Progress Report (APR) for performance review and monitoring of work at AMFUs/DAMUs at the end of Financial Year (FY) and also to be submitted to ATARI (for DAMUs only) and IMD. Format for APR to be shared by IMD.
- 6.5. Participation in the meeting / training relevant for AAS under GKMS by DAMU personnel as notified by IMD and ICAR.
- 6.6. Collect and compile local news / reports regarding crops, weather events related to AAS from newspapers and other source and forward to IMD/ATARI.
- 6.7. DAMUs shall submit inputs for GKMS News (quarterly), annual progress report concurrently to ATARI, ICAR and IMD and other reports as and when arise.
- 6.8. DAMUs shall submit Utilization certificate/Statement of Expenditure, Demand, and Annual Progress Report etc. to ICAR-ATARI at the end of financial year.
- 6.9. TO/SMS (Agromet) will be required to ensure the entry of all GKMS relevant data into real time monitoring dashboard. Currently, dashboard is under development.
- 6.10. Quarterly meeting to review work progress of DAMUs at ATARI level along with participation of RMCs/ MCs.
- 6.11. Changes / updates in contact details at AMFUs/DAMUs/ KVKs need to be informed from time to time.
- 6.12. Proper maintenance of all inventories, AMC etc, under GKMS.
- 6.13. Publication of research articles in the ambit of GKMS in peer reviewed journals.
- 6.14. Timely submission of inputs pertaining to GKMS of the locality as and when required.
- 6.15. Prompt disposal of any other requirements, pertaining to GKMS, of the locality arising from time to time.

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