

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 5387
TO BE ANSWERED ON WEDNESDAY, 5TH APRIL, 2023**

WEATHER BASED AGRO ADVISORY SERVICES

5387. SHRI MAGUNTA SREENIVASULU REDDY:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) the details of Weather based Agro Advisory Services operational in the country, State/UT-wise;
- (b) the challenges in this respect and the proposed measures to be taken in this regard; and
- (c) the benefits realised thereof?

ANSWER

THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR
MINISTRY OF SCIENCE AND TECHNOLOGY
AND EARTH SCIENCES
(DR. JITENDRA SINGH)

- (a) India Meteorological Department (IMD) runs an operational Agrometeorological Advisory Services (AAS) viz., Gramin Krishi Mausam Sewa (GKMS) scheme for the benefit of farming community in the country. Under the scheme, medium range weather forecast at district and block level for next five days is generated and based on the forecast, 130 Agromet Field Units (AMFUs) located at State Agricultural Universities (SAUs), institutes of Indian Council of Agricultural Research (ICAR) and Indian Institute of Technology (IIT) etc. and District Agromet Units (DAMUs) at Krishi Vigyan Kendras (KVKs) under ICAR network prepare Agromet Advisories on every Tuesday and Friday for the districts under their jurisdiction and for the blocks of the district of their location and communicate to the farmers to take decision on day-to-day agricultural operations.

Presently agromet advisories are being prepared on every Tuesday and Friday for all the agriculturally important districts (~700) and around 3100 blocks by 130 AMFUs and 199 DAMUs. State/UT-wise details on districts and blocks covered are given in Annexure I.

- (b) Weather plays a crucial role in agriculture and changes in weather patterns can have a significant impact on crop yields. Weather-based crop advisory services can provide real-time information about weather patterns, crop health and appropriate measures to the farmers enabling them to make informed decisions about various crop management practices leading to higher yields and increased income. In order to cater the need of the farming community, District level AAS was initiated in collaboration with ICAR and SAUs through the network of 130 AMFUs located across the country with an aim of providing more relevant weather information and location and crop specific advisories. After successful implementation of district level AAS, with the introduction of upgraded high-resolution models, the service has further extended to the block level with the establishment of DAMUs in the premises of KVKs of ICAR. AAS rendered by IMD is a step towards weather-based crop and livestock management strategies and operations dedicated to enhancing crop production and food security besides reducing crop damage and loss due to unusual weather.

Along with the biweekly bulletins, daily weather forecast and nowcast information are also disseminated to the farmers by Regional Meteorological Centres (RMCs) and Meteorological Centres (MCs) of IMD. Impact based forecast (IBFs) for agriculture are also being prepared by AMFUs and DAMUs based on the severe weather warnings for different districts of various States and UTs across the country issued by National Weather Forecasting Centre (NWFC), New Delhi and RMCs and MCs of IMD.

Agromet Advisories are disseminated to the farmers through multichannel dissemination system like print and electronic media, Door Darshan, radio, internet etc. including SMS using mobile phones through Kisan Portal and also through private companies under Public Private Partnership (PPP) mode.

Farmers access the weather information including alerts and related agromet advisories specific to their districts through the mobile App *viz.*, 'Meghdoot' launched by Ministry of Earth Sciences, Government of India. These weather details are also accessible by farmers through another App 'Kisan Suvidha', launched by Ministry of Agriculture & Farmers Welfare.

Social media like 'WhatsApp' is also used for quicker dissemination of weather forecast and agromet advisories. WhatsApp groups of farmers have been created by various AMFUs and DAMUs to disseminate agromet services. State Agriculture Department officials of District and Block level are also included in these WhatsApp groups.

IMD is also taking continuous efforts to popularize the services among the farming community by organising Farmers' Awareness Programmes (FAPs) in collaboration with AMFUs and DAMUs in various parts of the country. IMD along with the experts from AMFUs and DAMUs also participate in Kisan Melas, Farmers' Day etc. to create awareness about the services, so that more farmers get benefitted.

- (c) To assess the economic impact of weather forecast-based advisories, multiple studies were conducted by an independent third-party organization *viz.*, National Council of Applied Economic Research (NCAER) in 2009, 2015 and also recently in 2020.

The recent study of 2020 concluded that 98% of surveyed farmers (3,965 farmers across 121 districts of 11 states of India) made modifications to at least one of nine practices based on weather advisories. Average annual income of farming households increased from 1.98 Lakh, which adopted no modifications to Rs 3.02 Lakh which adopted all the 9 practices. An additional annual income was estimated of Rs. 12,500 per agricultural household belonging to Below Poverty Line category in rain-fed areas, while total income gain was estimated at Rs. 13,331 crore per annum in rain-fed districts. An investment of Rs 1000 crores will yield economic benefits of about Rs 50000 crores over a reiod of 5 years.

Annexure I**State/Ut-wise number of districts and blocks covered under GKMS**

| S. No. | State/UT | Number of districts | Number of blocks |
|---------------|----------------------------|----------------------------|-------------------------|
| 1 | Andamanand Nicobar Islands | 3 | 9 |
| 2 | Andhra Pradesh | 13 | 166 |
| 3 | Arunachal Pradesh | 20 | 15 |
| 4 | Assam | 33 | 103 |
| 5 | Bihar | 38 | 210 |
| 6 | Chhattisgarh | 27 | 67 |
| 7 | Delhi | 4 | 1 |
| 8 | Goa | 2 | 5 |
| 9 | Gujarat | 33 | 177 |
| 10 | Haryana | 22 | 103 |
| 11 | Himachal Pradesh | 12 | 32 |
| 12 | Jammu and Kashmir | 22 | 116 |
| 13 | Jharkhand | 24 | 97 |
| 14 | Karnataka | 30 | 137 |
| 15 | Kerala | 14 | 99 |
| 16 | Lakshadweep | 1 | -- |
| 17 | Madhya Pradesh | 51 | 153 |
| 18 | Maharashtra | 34 | 216 |
| 19 | Manipur | 16 | 4 |
| 20 | Meghalaya | 11 | 6 |
| 21 | Mizoram | 8 | 5 |
| 22 | Nagaland | 11 | 18 |
| 23 | Odisha | 30 | 226 |
| 24 | Puducherry | 2 | 6 |
| 25 | Punjab | 22 | 78 |
| 26 | Rajasthan | 33 | 171 |
| 27 | Sikkim | 4 | 19 |
| 28 | Tamil Nadu | 32 | 223 |
| 29 | Telangana | 30 | 89 |
| 30 | Tripura | 8 | 17 |
| 31 | Uttar Pradesh | 75 | 303 |
| 32 | Uttarakhand | 13 | 244 |
| 33 | West Bengal | 22 | 41 |
| | Total | 700 | 3156 |
