

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION No. 3903
TO BE ANSWERED ON WEDNESDAY, AUGUST 09, 2017**

WEATHER FORECASTING

3903. SHRIMATI MAUSAM NOOR:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether weather forecasting is the chief function of Indian Meteorological Department (IMD);**
- (b) if so, the manner in which the Department is helping the poor farmers who are fully dependent on weather for their crops;**
- (c) whether it is easy today to spread awareness amongst farmers by using information technology;**
- (d) if so, the key performance indicators for IMD on the issue of helping poor farmers and increasing the agriculture production; and**
- (e) the statistics about helping the poor farmers and spreading awareness by Government during the last three years and the current year, State/UT-wise?**

ANSWER

**MINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND
MINISTRY OF EARTH SCIENCES
(SHRI Y. S. CHOWDARY)**

- (a) Yes Madam.**
- (b) The Gramin Krishi Mausam Seva (GKMS) of India Meteorological Department (IMD) is rendered twice a week in collaboration with Indian Council of Agricultural Research (ICAR). District level weather forecast for next 5-days in respect of:**
 - Rainfall**
 - maximum temperature, minimum temperature**
 - wind speed, wind direction**
 - relative humidity and clouds**
 - weekly cumulative rainfall forecast**
 - Crop specific advisories****are provided to farmers. The GKMS of IMD has been successful in providing the crop specific advisories to the farmers through different print/visual/Radio/ IT based media including short message service (SMS) and Interactive Voice Response Service (IVRS) facilitating for appropriate field level actions. Weather forecast based agrometeorological advisories are disseminated through Kisan portal launched by the Ministry of Agriculture and also under public private partner. At present, 23.0 million farmers in the country are receiving the SMS based advisories.**

- (c) **Yes Madam.**
- (d) **As per the recent National Council of Applied Economic Research (NCAER) report of 2015, farming community of the country is using the above mentioned GKMS service products for critical farm operations, Viz., i) Management of sowing (Delayed / early onset of rains); ii) Changing crop variety (Delay in rainfall); iii) Spraying pesticides for disease control (occurrence of rainfall); iv) Managing Irrigation (Heavy rainfall Forecast). According to a survey, the weather forecast based Agromet Advisory Service (AAS) of IMD is found to be reliable by more than 93% of surveyed farmers and 95% of the farmers say that forecasts of IMD have improved during last 2-4 years. Further, most of farmers felt that there had been an improvement in the timeliness of the issuance of AAS bulletins of the weather forecasts.**

With the implementation of District Level Agro Meteorological Advisory services, India has seen improved agriculture performance in the rain fed farming (Covers 60% of arable land). Incremental profit due to GKMS is assessed at 25% of the net income. The Potential Annual Economic profit by using GKMS by 24% of the community currently cultivating 4-principal crops (wheat; paddy; sugarcane; cotton) in 2010 was assessed at Rs. 38,463 Crores (when 2.0 million farmers were subscribed to SMS service), which rose to Rs.42,000 Crores in 2015. The study suggests that GKMS has the potential of generating net economic benefit up to Rs.3.30 lakh crores when the Agro-Meteorological advisory is fully utilized by the 95 million agriculture dependent households.

- (e) **There is substantial improvement of the Agromet Advisory Services (AAS) under GKMS scheme of IMD during last three years and current year. The number of farmers receiving Agromet Advisories through SMS during last three year and in current year is given in Annexure- I , II, III and IV. No. of Farmer Awareness Programmes (FAPs) conducted during last three years and in current year by the AMFUs across the country is given in Annexure – V.**

Annexure I**Statewise number of farmers receiving Agromet Advisories through SMS during 2014**

| State | IFFCO | NOKIA | Reuter | Handygo | NABAR D | Mahindra & Mahindra | Farme r Portal | State Total |
|---|--------|--------|--------|---------|------------|------------------------|----------------------|----------------|
| Uttar Pradesh + Uttarakhand | 325046 | 132953 | 14648 | 0 | 0 | 0 | 326371 | 799018 |
| Orissa | 202652 | 3638 | 886 | 0 | 0 | 0 | 24300 | 231476 |
| Goa | | | 149 | | | | 0 | 149 |
| Madhya Pradesh + Chattisgarh | 29359 | 43996 | 20948 | 0 | 0 | 0 | 727022 | 821325 |
| Tamil Nadu + Puducherry | 18990 | 97476 | 932 | 0 | 0 | 0 | 756076 | 873474 |
| Bihar + Jharkhand | 182321 | 38928 | 1130 | 0 | 0 | 0 | 584387 | 806766 |
| Gujarat | 24653 | 64478 | 32668 | 0 | 0 | 0 | 108986 | 230785 |
| West Bengal + Andaman and Nicobar | 57062 | 59224 | 5258 | 0 | 0 | 0 | 27455 | 148999 |
| Maharashtra | 31214 | 100829 | 34726 | 14720 | 50000 | 65110 | 105258 | 401857 |
| Haryana | 8533 | 53692 | 477 | 2160 | 0 | 0 | 65322 | 130184 |
| Punjab | 20023 | 21582 | 12997 | 0 | 0 | 0 | 74819 | 129421 |
| Rajasthan | 47921 | 12801 | 16802 | 0 | 0 | 0 | 59257 | 136781 |
| Karnataka | 42852 | 71641 | 6869 | 0 | 0 | 0 | 25120 | 146482 |
| Andhra Pradesh | 49854 | 114621 | 5283 | 0 | 0 | 0 | 188642 | 358400 |
| Kerala | 4249 | 63285 | 0 | 0 | 0 | 0 | 625141 | 692675 |
| Himachal Pradesh | 4799 | 5285 | 167 | 0 | 0 | 0 | 35295 | 45546 |
| Jammu Kashmir | | 11649 | 397 | 0 | 0 | 0 | 449 | 12495 |
| Arunachal Pradesh | | | | | | | 285 | 285 |
| Manipur, Nagaland | | | | | | | 1416 | 1416 |
| New Delhi | | | | | | | 2788 | 2788 |
| Assam | | | | | | | 1657 | 34481 |
| Meghalaya | | 32687 | 137 | | | | | 0 |
| DDGM(Agrimet), Pune | | | | | | | 958281 | 958281 |
| SMS sent by AMFUs | | | | | | | | 110198 |
| Grand Total | | | | | | | | 7073282 |

Annexure II

| Status of Dissemination of Agro-advisories during 2015 | | | | | | | |
|---|--------------|--------------|---------------|----------------|---------------|--------------------------------|--------------------|
| State | IFFCO | NOKIA | Reuter | Handygo | Nabard | Mahindra & Mahindra | State Total |
| Uttar Pradesh + Uttarakhand | 326746 | 129100 | 18825 | | | | 474671 |
| Odisha | 211842 | 3531 | 1688 | | | | 217061 |
| Goa | | | 149 | | | | 149 |
| Madhya Pradesh + Chattisgarh | 28012 | 42720 | 32887 | | | | 103619 |
| Tamil Nadu | 18227 | 94652 | 579 | | | | 113458 |
| Bihar + Jharkhand | 219742 | 37800 | 2009 | | | | 259551 |
| Gujarat | 26825 | 62610 | 57498 | | | | 146933 |
| West Bengal | 48813 | 57509 | 12786 | | | | 119108 |
| Maharashtra | 29799 | 97908 | 28546 | 12512 | 50000 | 92500 | 311265 |
| Haryana | 7996 | 52136 | 1752 | 1604 | | | 63488 |
| Punjab | 20205 | 20956 | 12719 | | | | 53880 |
| Rajasthan | 52964 | 12430 | 16991 | | | | 82385 |
| Karnataka | 72602 | 69565 | 6542 | | | | 148709 |
| Andhra Pradesh | 50527 | 111300 | 14481 | | | | 176308 |
| Kerala | 4225 | 61451 | | | | | 65676 |
| Himachal Pradesh | 4553 | 5131 | 1721 | | | | 11405 |
| Jammu & Kashmir | | 11311 | 404 | | | | 11715 |
| Assam | | 31739 | | | | | 31739 |
| Meghalaya | | | 135 | | | | 135 |
| Delhi | | | 314 | | | | 314 |
| Total | | | | | | | 2391569 |
| SMS sent by AMFUs through NIC, way 2 sms etc | | | | | | | 130198 |
| Reliance foundation (Andhra Pradesh, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu and Union Territory of Pondicherry) | | | | | | | 17000 |
| SMS sent through Kisan Portal (State wise information given in Annexure II) | | | | | | | 8924056 |
| Grand Total | | | | | | | 11462823 |

Annexure III

| Status of Dissemination of Agro-advisories for 2016 | | | | | | | | |
|--|--------------|--------------|---------------|----------------|----------------------------|----------------------|--------------------------------|--------------------|
| State | IFFCO | NOKIA | Reuter | Handygo | Reliance Foundation | Kisan Sanchar | Mahindra & Mahindra | State Total |
| Uttar Pradesh | 510974 | 105600 | 34488 | 4409 | | 5963 | | 661434 |
| Uttarakhand | | | 165 | | | | | 165 |
| Odisha | 326504 | 84 | 1 | | 220192 | | | 546781 |
| Madhya Pradesh | 49327 | 9243 | 37109 | 3411 | 101248 | 1561 | | 201899 |
| Chhattisgarh | | | 310 | | | | | 310 |
| Tamil Nadu | 22025 | 5171 | 3 | | 277484 | | | 304683 |
| Bihar | 304500 | 10264 | 10 | 21053 | | 3755 | | 339582 |
| Jharkhand | | | 3 | | | 800 | | 803 |
| Gujarat | 47322 | 10990 | 6793 | | 90686 | | 23226 | 179017 |
| West Bengal | 101364 | 997 | 1952 | | 5422 | | | 109735 |
| Maharashtra | 34522 | 10799 | 33431 | 35031 | 1589698 | 416 | 172493 | 1876390 |
| Haryana | 13577 | 3880 | 25 | 3091 | | 2031 | | 22604 |
| Punjab | 24041 | 4529 | 20318 | | | 275 | | 49163 |
| Rajasthan | 81944 | 146 | 28914 | | 982 | 676 | | 112662 |
| Karnataka | 106495 | 4578 | 2416 | | 2112 | | | 115601 |
| Andhra Pradesh | 69501 | 6027 | 1966 | | 218001 | | | 295495 |
| Telangana | | | | | | | | |
| Kerala | 3094 | 581 | | | 73942 | | | 77617 |
| Himachal Pradesh | 9572 | 890 | 1 | | | | | 10463 |
| Jammu Kashmir | | 314 | 3 | | | | | 317 |
| Assam | | 1375 | | | | | | 1375 |
| Meghalaya | | | 2 | | | | | |
| Delhi | | | 2 | | | | | 2 |
| Total | | | | | | | | 4906100 |
| SMS sent by AMFUs through NIC, way 2 sms etc | | | | | | | | 129961 |
| SMS sent through Kisan Portal | | | | | | | | 14277483 |
| Grand Total | | | | | | | | 19313544 |

Annexure-IV

| State wise SMS sent through Kisan Portal and PPP Mode during July 2017 | | | | | | | | |
|--|-----------------|----------------|---------------|---------------|---------------------|---------------|---------------------|-----------------|
| State | Kisan Portal | IFFCO | REUTER | HAND YGO | Reliance Foundation | Kisan Sanchar | Mahindra & Mahindra | Total |
| ANDHRA PRADESH | 138285 | 75745 | 845 | | 438338 | 106 | | 653319 |
| TELANGANA | 79827 | | | | | | | 79827 |
| ARUNACHAL PRADESH | 834 | | | | | | | 834 |
| ASSAM | 29022 | | | | | | | 29022 |
| BIHAR | 150021 | 369287 | 9 | 140953 | | 3755 | | 664025 |
| CHATTISGARH | 1397336 | | 262 | | | | | 1397598 |
| GUJARAT | 195867 | 52770 | 2970 | | 132412 | | 34125 | 418144 |
| HARYANA | 329948 | 14848 | 11 | 2920 | | 2078 | | 349805 |
| HIMACHAL PRADESH | 557281 | 10753 | | | | | | 568034 |
| JAMMU AND KASHMIR | 8081 | | | | | | | 8081 |
| JHARKHAND | 590001 | | | | | 800 | | 590801 |
| KARNATAKA | 179563 | 116591 | 1981 | | 20894 | | | 319029 |
| KERALA | 520057 | | | | 109370 | | | 629427 |
| MADHYA PRADESH | 439631 | 56232 | 24148 | 3411 | 227343 | 3415 | | 754180 |
| MAHARASHTRA | 4559963 | 44365 | 24734 | 30124 | 2427503 | 1816 | 52539 | 7141044 |
| MANIPUR | 278 | | | | | | | 278 |
| MEGHALAYA | 1026 | | 2 | | | | | 1028 |
| MIZORAM | 3194 | | | | | | | 3194 |
| NAGALAND | 6545 | | | | | | | 6545 |
| NEW DELHI | 2179 | | | | | | | 2179 |
| ODISHA | 1909560 | 409370 | 1 | | 706859 | | | 3025790 |
| PUNJAB | 192532 | 24913 | 15873 | | | | | 233318 |
| RAJASTHAN | 271669 | 107898 | 23435 | | 1470 | 2127 | | 406599 |
| TAMIL NADU | 747709 | 19606 | | | 446019 | 109 | | 1213443 |
| TRIPURA | 4640 | | | | | | | 4640 |
| UTTAR PRADESH | 1181899 | 604845 | 19560 | 4109 | | | | 1810413 |
| UTTARAKHAND | 86740 | | 136 | | | 5963 | | 92839 |
| WEST BENGAL | 637525 | 107586 | 1834 | | 10046 | 52 | | 757043 |
| SMS sent by AMFUs through NIC | | | | | | | | 129961 |
| Total | 14221213 | 2014809 | 115801 | 181517 | 4520254 | 20221 | 86664 | 21160479 |

Annexure - V

**The number Farmers' Awareness Programmes (FAPs) conducted during last three year
(2014-15, 2015-16 and 2016-17)**

| Year | 2014-15 | 2015-16 | 2016-17 |
|--------------------|---------|---------|---------|
| No. of FAPs | 56 | 51 | 42 |