

(c) AAS to the country at the district level has already been made fully operational by the India Meteorological Department (IMD) during the XI Plan. A third party evaluation carried out by the National Center for Applied Economic Research (NCAER) has brought out the usefulness of the mobile and IVRS usage in dissemination of advisories on different farming operations. The report says that the farmers find the information disseminated, through the effective IT dissemination modes, very useful. At present, the AAS products are disseminated through SMS and IVRS to 2.74 million farmers in the country through Public-Private Partnership (PPP) mode. As per the report of NCAER, 24% of the farmers are using AAS advisories.

#### **Delay in rain forecast**

4079. SHRI TARUN VIJAY: Will the Minister of EARTH SCIENCES be pleased to state:

(a) the reason why the Indian Meteorological Department (IMD) delayed its long-range forecasts for the crucial annual rainy season from mid April;

(b) how SACOF-3's (South Asian Climate Outlook Forum) non-committal predictions helped IMD in delaying its annual prediction;

(c) whether according to forecasts by various agencies, there is a possibility of development of weak negative Indian Ocean Dipole (IOD) event during the later parts of 2012; and

(d) whether there is a consensus amongst experts of large uncertainty in the forecast information this year and if so, the reason therefor?

THE MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES (SHRI ASHWANI KUMAR): (a) IMD issues monsoon season rainfall forecast for the country as a whole in two stages-in April and in June. Generally, April forecast is issued in the second half of the month as required global data measured up to end of March is the critical forecast analysis/assessment and such data becomes available only around 10th April. In recent years, IMD also utilizes experimental/operational rainfall forecasts along with projected sea surface temperature anomalies and more so El-Nino Predictions from many global climate centres for wider scrutiny and analysis and such inputs are updated normally during 15th-25th of every month. Depending upon the availability of these global inputs, IMD had to adjust the date of issue of monsoon season rainfall forecast for the country.

(b) Factors for the perceived delay are mentioned at part (a) above and SACOF-3 cannot be the reason for the delay in issuing monsoon season rainfall forecast for the country. In fact, SACOF-3 outlook for the South Asian region is finalized with the IMDs lead role only and after its establishment India has been hosting the SACOF Meetings for the last 3-years in succession as our South Asian partners do not have the institutional mechanisms to generate seasonal rainfall forecast outlook.

(c) Yes, Sir.

(d) Yes, Sir.

- (i) As the seasonal rainfall outlook for the SACOF region for 2012 monsoon season has shown large divergence, ranging from deficient rainfall to normal/excess rainfall from various sources both from India and abroad viz. Japan Agency for Marine-Earth Science and Technology (JAMSTEC) and National Centers for Environmental Prediction (NCEP), USA indicated normal and below normal for most parts of the country based on two versions of the model. While the multi-model forecast from European Center for Medium Range Weather Forecasts (ECMWF), UK prepared based on coupled models of ECMWF, UKMO and Meteo France indicated normal to above normal rainfall over most parts of the country.
- (ii) The El Nino-Southern Oscillation (ENSO) conditions over equatorial Pacific, significantly influences the performance of the monsoon season rainfall which was in transition phase from weak La Nina to neutral conditions. The latest forecasts from both statistical and dynamical models suggested 53% probability for continuation of neutral ENSO conditions during the monsoon season and about 39% probability for emergence of El Nino conditions during later part of the season. Therefore, things will become clear only after May. That is why IMD also updates its monsoon forecast in June after accounting for all these factors.

#### **Earthquake research centre in coastal areas**

4080. SHRI T. M. SELVAGANAPATHI: Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether it is a fact that the coastal areas of the country is prone to earthquake;

(b) whether the previous records proves this fact;