(b) how old these are and whether they are country-made or imported ones;

(c) how these machines are repaired in sea; and

(d) what is the system to get the information during repair?

THE MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES (SHRI ASHWANI KUMAR): (a) To acquire information from the seas around India, a wide range of equipment is being used, depending upon the information needs towards understanding the oceanographic processes in the Indian Ocean. These are Moored Buoys, Drifters, Argo Profiling Floats, Current Meters, Wave Rider buoys, Tsunami buoys. These equipments are fitted with the state-of-the-art technology sensors, which are capable of transmitting information in near real-time through satellites from the seas around India, except those deployed in the sub-surface. Each of the equipment is designed to acquire a set of specific type of parameters *viz.*, Temperature, Salinity, currents, winds, waves, depth, atmospheric pressure, humidity.

(b) Each of the equipment has a defined life span depending on the number of sensors and periodicity of monitoring. For example, the Argo profiling float can work for 5 years, whereas the drifters can work for a year. The remaining equipment is generally 2-3 years old. All the equipments are imported one.

(c) The equipment fitted on buoys are repaired/serviced periodically using ships and chartered vessels and best of practice methodology is followed and also in emergency when required. Each of the equipment has different cycles of service and maintenance.

(d) Periodic servicing is planned well in advance and executed considering the ship time availability. In certain critical areas, the redundancy of systems is also available for continuous collection of the data, while the other one being serviced. All the data are transmitted through different satellites, HF, GSM. Hence, it can be determined whether the instrument is working or not.

IMD's prediction of monsoon

2374. DR. T. N. SEEMA: Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether India Meteorological Department (IMD) has been successful in predicting the arrival of monsoons for the current season and the last two seasons;

(b) if so, the details thereof;

(c) if not, the deviations in predicting the arrival of monsoons, State-wise;

(d) whether Government has evaluated the parameters used by UK, China and other developed countries for monsoon forecasts;

(e) whether any technological assistance has been sought from other countries and/or studies have been undertaken in this regard;

(f) if so, the details thereof;

(g) the efforts made by Government to introduce such technologies in the country; and

(h) the steps being taken by Government for accurate prediction of monsoons?

THE MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES (SHRI ASHWANI KUMAR): (a) Yes Sir.

(b) IMD has been issuing forecast for the arrival of the monsoon (onset over Kerala) successfully since 2005 with an error of ±4 days. The operational forecasts issued during all the last three years (2010 to 2012) are presented below:

Year	Actual Onset Date	Forecast Onset Date
2010	31st May	30th May
2011	29th May	31st May
2012	5th June	1st June

(c) Does not arise as IMD do not predict the State-wise arrival of the summer monsoon.

(d) Forecasts from National Centres for Environmental Prediction (NCEP), USA, Meteo France, France, International Research Institute for Climate and Society (IRI), USA, World Meteorological Organization's Lead Centre for Long Range Forecasting–Multi-Model Ensemble, Japan Agency for Marine-Earth Science and Technology (JAMSTEC) and APEC Climate Centre, Korea *etc.* were also considered in addition to the inputs from various R&D groups in India.

(e) Yes, Sir.

(f) IMD has so far been using a suite of statistical models for prediction of seasonal monsoon rainfall over India. Such a mechanism is prevalent due to non-availability of a suitable coupled dynamical ocean-atmospheric model with a proven performance of capturing the realistic monsoon rainfall variability over India. We are examining the performance of coupled ocean-atmospheric models of USA and UK towards their suitability for seasonal monsoon rainfall predictions over India so as to enhance their capabilities under the National Monsoon Mission.

(g) The Government has always been upgrading the High Performance computing systems (HPCS) and associated infrastructure for weather, climate and ocean data assimilation and forecast systems from time to time. Although, the existing HPCS capacity, of about 125 Tera Flaps, is not sufficient to meet fully all on-going operational testing and research efforts, it is merely meeting the minimum computing needs of coupled ocean-atmospheric general circulation model to facilitate long-term climate variability and change studies and to generate representative climate change scenarios for the future.

(h) The Government has taken up National Mission on Monsoon (NMM) to develop most representative and advanced dynamic model framework for India for forecasting monsoon rainfall and its variability in various space and time scales.

Action-plan to unite media arms

2375. SHRI BAISHNAB PARIDA: Will the Minister of INFORMATION AND BROADCASTING be pleased to state:

(a) whether it is proposed to work out an action-plan to unite all the media arms of the Government to improve image of Government and reach out to the public in a big and better manner;

(b) if so, the details thereof; and

(c) what is the other action-plan to improve the image/credibility of Government in the welfare field for the general public?

THE MINISTER OF STATE IN THE MINISTRY OF INFORMATION AND BROADCASTING (SHRI CHOUDHURY MOHAN JATUA): (a) and (b) The Ministry has constituted a Coordination Committee to ensure convergence of advocacy, information and communication objectives and strategies of the Ministry and to