

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
LOK SABHA  
UNSTARRED QUESTION No. 627  
TO BE ANSWERED ON WEDNESDAY, JULY 20, 2016  
UNDER WATER ROBOT**

**627. DR. MANOJ RAJORIA:**

**Will the Minister of EARTH SCIENCES be pleased to state:**

- (a) whether the Government has formulated a scheme/project to deploy under water robots in the Bay of Bengal;**
- (b) if so, the details thereof and its likely benefits to the general public and farmers;**
- (c) whether foreign assistance is being sought for the said project; and**
- (d) if so, the details thereof?**

**ANSWER**

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

- (a) No Madam. However, an Ocean Glider has been deployed.**
- (b) In order to improve the oceanographic observation data in the Bay of Bengal as apart of ongoing Ocean Observing System Program, a Glider has been acquired by the Indian National Center for Ocean Information services (INCOIS), Hyderabad. Ocean Glider, an autonomous, unmanned underwater vehicle is, used to measure various oceanographic parameters such as temperature, salinity, chlorophyll and photosynthetically active radiation along a desired track in the upper 1000 m of water column. At the end of each dive-and-climb phase Glider transmit collected data to the base-station at land via satellite telemetry. Repeated hydrographic survey in the international waters of the northern Bay of Bengal (18°N, 89.5°E) were conducted during the period of 3<sup>rd</sup> September, 2015 to 10<sup>th</sup> January, 2016 using this Glider and the vehicle has been successfully recovered after the mission. Gliders are also used recently during the joint research campaign between India and United Kingdom (U.K.) over the Bay of Bengal to understand monsoon ocean process.**

**Overall improvement to the monsoon forecast will help the economic growth particularly though improved incomes to the larger community depending on agricultural activities.**

- (c-d)As the Glider technology is new, three scientists from INCOIS have been deputed for two week Glider training at Kongsberg Underwater Technology inc., Lynnwood, Seattle, USA and Applied Physics Laboratory (APL), University of Washington, Seattle, USA. Moreover, during the initial phase of Glider mission, INCOIS scientist operated the vehicle under the supervision of APL scientists and the team is successfully completed the glider mission outside Indian exclusive economic zone (EEZ).**