

**GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH**

**LOK SABHA
UNSTARRED QUESTION No. 3510
(TO BE ANSWERED ON 08.08.2018)**

CONVERTING SEA WATER TO POTABLE WATER

3510. SHRI KIRTI VARDHAN SINGH:

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

- (a) whether CSIR has developed a technology to convert sea water into potable water to mitigate the shortage of potable water in the country;**
- (b) if so, the details thereof;**
- (c) whether the technology developed by CSIR is too costly or economically unviable to be used on a large scale; and**
- (d) if so, the steps being taken by the Government to make it economically more viable?**

ANSWER

**MINISTER OF SCIENCE AND TECHNOLOGY AND EARTH SCIENCES
(DR. HARSH VARDHAN)**

- (a) Yes, Madam.**
- (b) The Council of Scientific and Industrial Research, through its constituent laboratory, CSIR-Central Salt & Marine Chemicals Research Institute (CSIR-CSMCRI), Bhavnagar has developed a membrane based RO technology for converting sea water into potable water to mitigate the shortage of potable water in the country. CSIR-CSMCRI has developed two stage sea water desalination technology by using the indigenous membranes developed at CSIR-CSMCRI. In the first stage 93%-94% rejection of salt with a flux of 40 to 45 LMH at the pressure of 650-700 psi is achieved while in the second stage 98% of rejection of salt is achieved with a flux of 65 to 70 LMH at pressure of 400 psi.**
- (c)&(d) The technology is reasonably viable from an economic standpoint compared to imported desalination units at comparable scales. For a 1000 LPH plant, the cost of 1 litre water complying with the WHO specifications would be around 12-13 paise per litre. CSIR-CSMCRI is continuing its efforts to make the technology more robust and bring down the cost of potable water further.**
