

**GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA**

STARRED QUESTION NO:439

ANSWERED ON:25.04.2013

CONVERSION OF SEA WATER INTO DRINKING WATER

Muttemwar Shri Vilas Baburao;Sharma Shri Jagdish

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether any success has been achieved in converting sea water into safe drinking water;
- (b) if so, the details thereof;
- (c) whether the Government has formulated any scheme at the national level for converting sea water into safe drinking water;
- (d) if so, the details thereof including locations of such projects, State-wise; and,
- (e) the details of the cost of purification of water in this regard?

Answer

MINISTER OF SCIENCE AND TECHNOLOGY AND MINISTER OF EARTH SCIENCES (SHRI S. JAIPAL REDDY)

(a) to (e): A statement is laid on the Table of the House.

STATEMENT LAID ON THE TABLE OF THE LOK SABHA IN REPLY (a) to (e) TO STARRED QUESTION NO. 439 REGARDING "CONVERSION OF SEA WATER INTO DRINKING WATER" TO BE ANSWERED ON THURSDAY, APRIL 25, 2013.

(a) Yes, Madam.

(b) Earth System Science Organisation (ESSO) - National Institute of Ocean Technology (NIOT) has indigenously designed developed and demonstrated Low Temperature Thermal Desalination (LTTD) technology for conversion of sea water into potable water. The LTTD is a process under which the warm surface sea water is flash evaporated at low pressure and the vapour is condensed with cold deep sea water. This technology is efficient and found to be suitable for island territories of India, especially Lakshadweep Islands. The same process is used to generate potable drinking water utilizing the thermal wastewater (having temperatures significantly more than room temperature), from thermal power plants. Till date, 4 LTTD plants have been successfully commissioned in the country, one each at Kavaratti (2005), Minicoy (2011), Agatti (2011), Lakshadweep and at North Chennai Thermal Power Station (NCTPS), Chennai (2008). The capacity of each of these LTTD plants is 1 lakh liter of potable water per day.

(c) Yes, Madam.

(d) ESSO proposes to set up a LTTD plant with a capacity of generating 2 million litres of potable water per day (2 MLD) at Tuticorin Thermal Power Station, Tamil Nadu and six LTTD plants funded by the Lakshadweep Administration, one each in the islands of Lakshadweep viz., Amini, Chetlet, Kadamath, Kalpeni, Kiltan and Andrott with a capacity of generating one lakh litre of potable water per day.

(e) The cost per liter of desalination would depend on the technology used and cost of electricity which varies from place to place. According to the cost estimates made recently by an independent agency for LTTD technology, the operational cost per litre of desalinated potable water is about 19 paise for island based plants.