

**GOVERNMENT OF INDIA  
ATOMIC ENERGY  
LOK SABHA**

UNSTARRED QUESTION NO:1844

ANSWERED ON:08.03.2006

CONVERSION OF SALINE WATER INTO POTABLE WATER

Kaushal Shri Raghuvir Singh;Meghwal Shri Kailash

**Will the Minister of ATOMIC ENERGY be pleased to state:**

- (a) Whether the Government has launched any atomic energy based action plan to tackle the future drinking water problem by converting saline water of sea into potable water;
- (b) if so, the details thereof;
- (c) the present status of the same along with the expenditure likely to be incurred thereon;
- (d) whether the Government proposes to undertake similar projects in future ; and
- (e) if so, the details thereof?

**Answer**

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI PRITHVIRAJ CHAVAN):

(a) Yes, Sir.

(b) The Bhabha Atomic Research Centre (BARC), a constituent unit of the Department of Atomic Energy (DAE), has developed technical capability for designing and building desalination plants. BARC has set up a eighteen (18) lakh litres per day Reverse Osmosis (RO) desalination plant as a part of Nuclear Desalination Demonstration Project (NDDP) at Kalpakkam, Tamil Nadu for sea water desalination. A Multi-Stage Flash (MSF) Evaporation Plant (another part of NDDP) with a capacity of forty-five lakh (45 lakh) litres per day is under construction.

Low Temperature Evaporation (LTE) technology using waste heat for sea water desalination has also been developed. A demonstration plant (30,000 litres/day capacity) coupled to nuclear research reactor (CIRUS) at Trombay was set up. The unit is first of its kind producing very pure distilled quality water from sea water.

BARC had also set up several desalination plants including those at BARC, Trombay, Sheelgaon village in Barmer district, Rajasthan (30,000 litres/day capacity) and satlana village in Jodhpur district, Rajasthan (30,000 litres/day capacity) in co-operation with Defence Laboratory, Jodhpur (Rajasthan) for providing drinking water from borewell/brackish water sources.

BARC has set up three (3) desalination plants (5,000 litres/day capacity each) in the Tsunami affected areas of Tamil Nadu for providing drinking water.

(c) The projects at Jodhpur, Barmer districts and Tsunami affected areas are already in operation. The Reverse Osmosis (RO) desalination plant at Kalpakkam, Tamil Nadu is also in operation. The Multi-Stage Flash (MSF) Evaporation Plant, which is also a part of NDDP is under construction. An amount of Rs.49.97 crore (Rupees forty nine crore ninety seven lakh) is likely to be incurred on the NDDP project at Kalpakkam, Tamil Nadu. As regards the desalination plants at Jodhpur and Barmer districts, an amount of Rs.30 lakh have been incurred. So far as the desalination plants in the Tsunami affected areas are concerned, a total amount of Rs.24 lakh has been incurred for setting up three such plants.

(d) The technology for setting up desalination plants is available with the DAE, which can be made available to any Government agency.

(e) BARC is Advisor to Chennai Metro Water for 100 MLD sea water desalination plant. BARC is providing consultancy and signed an MoU with M/s BHEL for large size sea water desalination plants. BARC has also provided design consultancy support to National Institute of Ocean Technology (NIOT) for 100,000 LPD low temperature sea water desalination plant set up by NIOT at Kavaratti, Lakshadweep.