

**GOVERNMENT OF INDIA  
ATOMIC ENERGY  
LOK SABHA**

UNSTARRED QUESTION NO:623

ANSWERED ON:03.08.2011

CONVERSION OF SEA WATER INTO POTABLE WATER

Rani Killi Krupa

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

- (a) whether the sea water could be converted into potable water by using atomic energy;
- (b) if so, the details thereof;
- (c) whether the Government has set up/proposes to set up any project for the purpose; and
- (d) if so, the cost of conversion of sea water into potable water and the modalities worked out by the Government to ensure the cost effectiveness of such conversion?

**Answer**

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND IN THE PRIME MINISTER'S OFFICE  
(SHRI V. NARAYANASAMY)

(a) Yes, sir.

(b) Desalination of sea water is possible by using either Reverse Osmosis (RO) or Thermal processes. Electrical and/or thermal energy from Atomic Power Station or Nuclear Research Reactor can be used for this purpose.

(c) Yes, sir. Bhabha Atomic Research Centre (BARC) has set up desalination facilities using heat generated in nuclear reactors at Trombay and Kalpakkam.

(d) The cost of conversion of sea water into potable water using the above technologies varies between 5 to 10 paise/litre depending on site conditions, end product quality and the technology in use. When large scale plants are built, the economy in scale will provide further reduction in cost.

BARC has also taken up R&D Projects on desalination and water purification technologies for development of cost reduction strategies through technological innovations. Some of these projects are:

- i) Development of Membrane for RO process
- ii) Advanced Desalination Technology Studies
- iii) Solar energy driven desalination systems
- iv) Experimental studies for recovery of valuables from brine.