Scheme for conversion of sea water into drinking water

†369. DR. CHANDAN MITRA: Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether Government has formulated any scheme to install large number of plants in the coastal areas of the country for producing drinking water from sea water;

(b) if so, the details thereof and the per litre cost of drinking water so produced from these plants; and

(c) by when these schemes are likely to be implemented?

THE MINISTER OF EARTH SCIENCES (SHRI S. JAIPAL REDDY): (a) Yes, Sir.

(b) The National Institute of Ocean Technology (NIOT) an autonomous body of the Ministry of Earth Sciences has indigenously designed, developed and demonstrated desalination technology for conversion of sea water into potable water based on Low Temperature Thermal Desalination (LTTD) technology. 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 suitable for island territories of India. Till date, 4 LTTD plants have been successfully commissioned in the country, one each at Kavaratti, Minicoy, Agatti, Lakshadweep and at North Chennai Thermal Power Station (NCTPS), Chennai. The capacity of each of these LTTD plants is 1 lakh liter per day of potable water. Six LTTD plants funded by Lakshadweep Administration, one each in the islands of Lakshadweep *viz.,* Amini, Chetlet, Kadamath, Kalpeni, Kiltan and Andrott are proposed to be set up. Also, it is proposed 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.

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 costs per litre of desalinated potable water is about 19 paise for island based plants.

†Original notice of the question was received in Hindi.

(c) Six LTTD plants at Lakshadweep Islands and one LTTD plant at Tuticorin, Tamil Nadu are proposed to be implemented during the Twelfth plan period.

National mission on monsoon

370. SHRI PALVAI GOVARDHAN REDDY: Will the Minister of EARTH SCIENCES be pleased to state:

(a) the aims and objectives of the National Mission on Monsoon;

(b) to what extent the Mission would help in accurately providing the data relating to monsoon, floods, etc;

(c) whether the proposal has been included in the Twelfth Five Year Plan for implementation;

(d) if so, the details thereof; and

(e) if not, the reasons therefor?

THE MINISTER OF EARTH SCIENCES (SHRI S. JAIPAL REDDY): (a) The aims and objectives of the National Monsoon Mission are:

(i) To set up a state-of-the-art dynamical prediction system for a) improved prediction of monsoon rainfall on extended range to seasonal time scale (16 days to one season) and b) improved prediction of temperature, rainfall and extreme weather events on short to medium range time scale (up to 15 days).

(ii) To build a working partnership between the academic and research organizations, both national and international and the operational agencies in the country to improve the skill of operational monsoon forecasts over the country.

(b) The proposed program after its implementation will lead to more accurate prediction of monsoon weather and climate in all time scales, short range to seasonal time scale at appropriate spatial scales. The forecasts based on this dynamical prediction system will cater to the needs of various sectors like agriculture, water resources management, power generation, disaster management, tourism, and transport.

At present operational extended range to seasonal forecasts are prepared using statistical methods which have constraints and limitations. The monsoon mission will help us to implement a state-of-the-art dynamical prediction system with more accuracy and fidelity for extended range to seasonal forecasts in the country.