

**GOVERNMENT OF INDIA  
MINES  
LOK SABHA**

UNSTARRED QUESTION NO:4925  
ANSWERED ON:02.09.2011  
OCEAN MINING  
Halдар Shri Sucharu Ranjan

**Will the Minister of MINES be pleased to state:**

- (a) whether the Government has explored the potential of ocean mining;
- (b) if so, the details thereof; and
- (c) the details of projects taken up by the Government in this regard during the last three years and the current year alongwith the expenditure incurred thereon?

**Answer**

THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR MINES (SHRI DINSHA PATEL)

(a) and (b): Yes, Madam. Geological Survey of India [GSI], an attached office with the Ministry of Mines has undertaken studies to assess the economic mineral bearing areas within the Exclusive Economic Zone [EEZ] and the Territorial Waters [TW] of India. The details are given in Annexure.

(c): Details of expenditure incurred by the Geological Survey of India for exploration in offshore areas is given below :-

Year    Amount (in crore)

2007-08	Rs.24.04
2008-09	Rs.56.85
2009-10	Rs.27.66
2010-11	Rs.38.71

**Annexure**

Annexure referred in reply to parts (a) and (b) of Lok Sabha Unstarred Question No. 4925 for answer on 2nd September,2011 regarding ocean mining.

GSI have delineated economic mineral bearing areas within the Exclusive Economic Zone (EEZ) of India including the Territorial Waters. The findings of the surveys are given below:

# Heavy mineral sands comprising ilmenite, rutile, zircon, sillimanite, monazite and garnet found off East coast (Orissa and Andhra Pradesh).

# Similar heavy mineral sands comprising ilmenite, rutile, zircon, sillimanite, monazite and garnet have been found off West coast (Kerala –Tamil Nadu).

# Heavy mineral sands comprising ilmenite and magnetite also have been found off Ratnagiri in the West coast.

# Oolites and calcareous sands have been found in the continental shelf off Andhra Pradesh, Tamil Nadu, Maharashtra and Gujarat coast.

# High grade of lime mud occurrences is found in water depth of 100 – 200 m off Andhra coast.

# High grade lime mud deposit found in water depth of 180 – 1200 m off Gujarat.

# Phosphatic sediment (17 – 19% P<sub>2</sub>O<sub>5</sub>) found in water depths of 100 – 200 m south east off Chennai.

# Phosphatic sediments (15 – 20% P<sub>2</sub>O<sub>5</sub>) found in water depths of 200 – 1000 m off Gujarat coast.

# Reconnaissance Survey, for identification of potential areas for Ocean Thermal Energy Conversion (OTEC) and occurrences of construction grade sand has been carried out off Andaman and Nicobar Islands

# Potential areas of occurrences of construction grade sand off Kerala coast have been identified.

# Occurrence of micro-manganese nodules has been identified, within a wide area west of Lakshadweep, at water depths ranging from 2800 meters to 4300 meters. The chemical composition of these nodules are as follows: Manganese: 5% - 41%, Iron: 0.3 - 5.3%, Copper: 530 - 900 parts per million [ppm]; Lead: 230 - 1600 ppm; Zinc: 790 - 4800 ppm; Nickel: 700 - 1000 ppm; Cobalt: 80 - 300 ppm; Ferromanganese encrustations has also been located in the Andaman sea off Batti Malva.