

**GOVERNMENT OF INDIA  
OCEAN DEVELOPMENT  
LOK SABHA**

UNSTARRED QUESTION NO:2287  
ANSWERED ON:13.03.2001  
RESERVES IN INDIAN OCEAN  
DILIP KUMAR MANSUKHLAL GANDHI

**Will the Minister of OCEAN DEVELOPMENT be pleased to state:**

- (a) Whether the Government have undertaken any study to explore the availability of different types of reserves in the Indian Ocean.;
- (b) if so, the details thereof indicating the seashore area connected with different States and Union Territories;
- (c) whether the Government propose to prepare some programmes for the utilisation of these reserves;
- (d) if so, the details thereof; and
- (e) if not, the reasons therefore?

**Answer**

MINISTER FOR OCEAN DEVELOPMENT (DR. MURLI MANOHAR JOSHI)

(a) to (e) Yes, Sir. The studies to explore various reserves in the ocean are an ongoing process. These studies have established availability of following types of reserves :

- Polymetallic Nodules
- Fishery Resources
- Heavy Mineral deposits
- Hydrocarbons

1) The Department of Ocean Development has conducted survey in the Central Indian Ocean Basin for the assessment of resources for Copper, Nickel, and Cobalt

2) bearing ferromanganese (polymetallic) nodules. On the basis of the survey so far carried out in the 1,50,000 sq. km., allocated by UN in August, 1987, the estimated resources potential is as below :

Polymetallic Nodules	760 million tonnes
Copper	6.0 million tonnes
Nickel	6.40 million tonnes
Cobalt	0.98 million tonnes
Manganese	146.00 million tonnes

2) It has been estimated by Ministry of Agriculture that the fishery potential from the Indian Exclusive Economic Zone ((EEZ) is 3.9 million tonnes.

3) Geological Survey of India (Marine Wing) has undertaken sea bed survey within the EEZ for non-living resources and investigations relating to earth sciences. They have delineated heavy mineral sands comprising ilmenite, rutile, zircon, sillimanite, monazite and garnet off Orissa, Andhra, Kerala and Karnataka coasts, high grade lime-mud deposit in water depths of 180 to 1200 m off Gujarat coast; phosphatised sediments in water depths of 200 – 1000 m off Gujarat coast; 2-5 cm thick layer of micro-manganese nodules in water depth of 2800 to 4300 m in Lakshadweep sea; Oolites and calcareous sand found in water depth of 50 to 200 m off Maharashtra and Gujarat coasts; high grade lime mud deposits in water depths of 100 to 200 m off Andhra coast; phosphatised sediments in water depths of 100-200 m South East off Chennai, Calcareous sediments in water depth of 1000 m, west of Andaman Nicobar Group of Islands; high grade calcareous sands in shallow offshore and lagoons of Lakshadweep.

4) Various measures are being taken by the Government to find new hydrocarbon reserve by, inter alia, extending exploration to deep

waters and frontier areas, increasing private participation in exploration activities. Several steps are being taken by the Government to increase crude oil production in the country which include:

- To improve the recovery factor from existing major fields by implementing Enhanced Oil Recovery (EOR)/ Improved Oil Recovery (IOR) schemes. These would also help in accelerating oil production from the fields
- To add reserves by exploring in the deeper layer in the producing areas.