## GOVERNMENT OF INDIA EARTH SCIENCES LOK SABHA

UNSTARRED QUESTION NO:4091 ANSWERED ON:05.09.2012 EXPLORATION OF DEEP SEA MINERALS Antony Shri Anto

## Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether the country is engaged in the exploration activity for hunting deep sea mineral resources in the Indian Ocean:

(b) if so, the details thereof including the advantages and viability of deep-sea mining activity;

(c) the important minerals explored so far and expected to be extracted from the Indian ocean;

(d) whether the Government has estimated the value of the mineral resources in the Indian Ocean and if so, the details thereof;

(e) whether the country entered into any contract with the International Seabed Authority (ISA) regarding the deep sea exploration in the Indian Ocean; and

(f) if so, the details thereof including the major provisions under the Contract?

## Answer

MINISTER OF STATE IN THE MINISTRY OF PLANNING, MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES (DR. ASHWANI KUMAR)

(a) Yes Sir. India was initially allotted an Area of 1,50,000 sq.km. in Central Indian Ocean Basin (CIOB) by the then Preparatory Commission of United Nations (UN) on 17th August, 1987 on the basis of extensive survey work carried out by India. As per obligations, India relinquished 50% of the Area in phases and retained 75,000 sq km. Ministry of Earth Sciences (MoES) as nodal ministry of Government of India, is engaged in the exploration activity in an area of 75000 sq. km in the CIOB allocated to India by UN, for developmental activities in the retained area.

(b) MoES has carried out various activities like survey & exploration, environmental impact assessment study and development of technologies in phases for eventual extraction of metals from polymetallic nodules. The surveys have been systematic beginning with a sampling interval of 100 km followed by intervals of 50, 25, 12.5 km and was further narrowed down to ~ 6.25 km grid in selected blocks. Multibeam survey has also been carried for the entire retained area. An area of about 7860 square km has been identified for the First Generation Mine Site on the basis of detailed analysis. Ministry of Earth Sciences has engaged in development of integrated deep sea mining system for operating upto 6000 m water depth in phases. As a part of phase wise development of mining system upto a water depth of 6 km, National Institute of Ocean Technology (NIOT), an autonomous Institute under the Ministry has designed, developed and demonstrated a prototype shallow bed mining system capable of working upto a depth of 500 m.

The exploitation of polymetallic nodules from the deep ocean floor is not yet found to be economically viable at this stage.

(c) Strategically important metals explored so far and expected to be extracted in the Indian Ocean from polymetallic nodules are copper, nickel, cobalt and manganese as alloy.

(d) In the retained area, the estimated polymetallic nodule resource potential is 380 million tones, containing 4.7 million tonnes of nickel, 4.29 million tonnes of copper and 0.55 million tonnes of cobalt and 92.59 million tonnes of manganese. The estimated value of copper, nickel & cobalt metal would be about Rs.700, 000 crores at prevalent price.

(e & f) Yes Sir, India signed a contract with International Seabed Authority (ISA) in March, 2002 for a period of 15 years for carrying out various developmental works (Survey & Exploration, Environmental Impact Assessment (EIA) study, technology development in Mining and Metallurgy) in the retained area under Polymetallic Nodules programme.