

GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO – 4
ANSWERED ON 29/01/2026

DOMESTIC EXPLORATION AND AVAILABILITY OF CRITICAL MINERALS

4. SMT. SANGEETA YADAV

Will the PRIME MINISTER be pleased to state:-

- (a) whether the Government has identified critical minerals essential for India's nuclear energy and other strategic sectors;
- (b) if so, the details thereof, including their domestic availability, and import dependency; and
- (c) the steps taken to enhance domestic exploration and processing and also secure long-term supply chains for these minerals in line with the Viksit Bharat 2047 vision?

ANSWER

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS
AND PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH)

(a) & (b) Yes. The Atomic Minerals Directorate for Exploration and Research (AMD), a constituent unit of Department of Atomic Energy (DAE), has a major mandate to identify, evaluate and augment the mineral resources of critical elements like niobium, tantalum, beryllium, lithium, zirconium, titanium and rare earths containing uranium and thorium, besides minerals of uranium and thorium, in potential geological domains of the country, which are essential for India's nuclear energy and strategic sectors.

As on date, AMD has established:

- Approximately 7.23 million tonne (Mt) in-situ Rare Earth Elements Oxide and 1.18Mt Thorium Oxide (ThO₂) contained in 13.15Mt monazite (a mineral of Thorium and Rare Earths), 761.97Mt titanium-bearing minerals (ilmenite, rutile and leucosene) and 38Mt zircon (zirconium bearing minerals) occurring in the coastal beach, teri / red sands and inland alluvium in parts of Andhra Pradesh, Odisha, Tamil Nadu, Kerala, West Bengal, Jharkhand, Gujarat and Maharashtra.
- 1.29Mt in-situ Rare Earth Oxide (REO) resources in hard rocks in parts of Gujarat and Rajasthan. In addition, 29,900t Th-Oxide; 1,42,200t Nb-Oxide; 3,85,700t Zr-Oxide and 81,300t V-oxide in-situ resource in hard rocks have been established in association with the REO resources.

- 1,800t lithium oxide (Li₂O) has been established in hard rocks in Karnataka.

Additionally, 149.129t of Columbite - Tantalite (Nb-Ta mineral), 4,250.059t of Beryl (Be mineral), 3,296.679t of Lepidolite (Li mineral), 72.151t of Spodumene (Li mineral), 4.212t of Amblygonite (Li mineral) and 123.763t of Xenotime (Y mineral) bearing heavy mineral concentrate have been stockpiled incidental to prospecting operations.

Besides, 4,39,800 tonne (t) in-situ U-oxide resource has been established in Andhra Pradesh, Telangana, Jharkhand, Meghalaya, Rajasthan, Karnataka, Chhattisgarh, Uttar Pradesh, Uttarakhand, Himachal Pradesh and Maharashtra. The Uranium produced domestically is utilized in domestically safeguarded reactors. The Uranium required for India's nuclear energy being generated through IAEA safeguarded reactors is being imported.

- (c) To enhance domestic exploration for the critical minerals essential for India's nuclear energy and strategic sectors, AMD has adopted integrated and multi-disciplinary exploration strategy (including heliborne and ground geophysical surveys, ground geological, geochemical and radiometric surveys and drilling) to augment the resources of critical and strategic minerals in identified thrust areas of the country.

IREL (India) Limited (IREL), a PSU under Department of Atomic Energy produces critical minerals such as Titanium bearing minerals, Zircon bearing minerals and Rare Earth elements for nuclear energy sector. Kerala Minerals and Metals Limited (KMML) a state PSE under Government of Kerala also undertake similar activity. IREL has been operating in three locations having the facility for integrated mining and processing of mineral sands and a facility for extraction and refining of Rare Earths. IREL has been granted LOI for three deposits (two in the state of Odisha and one in Tamil Nadu) and nominated as prospective lessee for one deposit in Andhra Pradesh to augment the processing capacity of these minerals for which pre-project activities are underway.

* * * * *